

American Artisan

and Hardware Record

Sheet Metal Work—Welding—Air Heating

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CHICAGO, NOVEMBER 19, 1927

\$2.00 Per Year

Periodical Division
Library of Congress
Washington D. C.

Two-Fold Satisfaction With HORSE HEAD ZINC

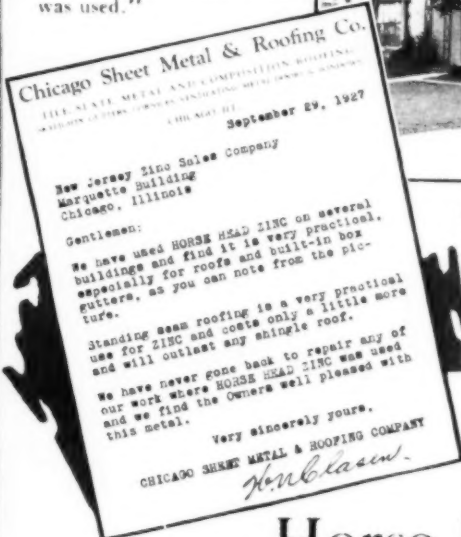
The Sheet Metal Contractor says:

"We have never gone back to repair any of our work where Horse Head Zinc was used."



The Owner says:

"If we were to build a new home tomorrow, we would not think of any other type roofing."



Residence of F. W. Miller at Highland Park, Ill. Standing Seam Horse Head Zinc Roofing installed by Chicago Sheet Metal & Roofing Co., Chicago, Ill.



Standing Seam Horse Head Zinc Roofing

PERMANENT — RUST-PROOF — ATTRACTIVE

Shipped in casks complete with nails, zinc for clips, and full instructions. Each cask contains enough zinc to cover one hundred square feet with full allowances for seams and laps.

If you are not familiar with the working qualities of Horse Head Zinc, clip the coupon for a sample and test it yourself.

The New Jersey Zinc Company
Established 1818

Products Distributed by
The New Jersey Zinc Sales Company
160 Front Street, New York City
Chicago Pittsburgh Cleveland San Francisco

THE NEW JERSEY ZINC COMPANY
160 Front Street - New York City

Please send me a sample of Horse Head Zinc so that I can test its easy working qualities.

NAME _____

ADDRESS _____

Monitor Furnaces are Easier to Sell!

It is much easier to sell MONITOR Furnaces—because they are so well known.

Dominating advertising during the past ten years and perfection of product have made them outstanding leaders in the public preference.

In addition to this tremendous sales advantage, you have the assurance that Monitor sells through dealers only. Monitor, in its more than a century of success, has gained an enviable reputation for working hand in hand with men who have made the heating business their life's work.

Some choice territories open. If there is no Monitor dealer in your town, write or wire at once for catalog, prices and terms.

The Monitor Furnace Co.

108 Years of Continuous Heating Service
CINCINNATI, OHIO



Monitor Pipeless

Monitor Pipe

MONITOR OILELECTRIC BURNERS

Made in two models—to take care of every domestic oil burner installation.

Model "A" Nozzle Type—ELECTRICALLY IGNITED, OPERATED, CONTROLLED.

Model "M" Pot Type. Highly efficient and dependable. Listed as standard by the Underwriters Laboratories. Complete information mailed on request. Write NOW!

WE feel a pardonable pride in enjoying the admiration and respect of our competitors, as well as the Trade. Read what one leading member of the National Warm Air Heating and Ventilating Association has to say:

(The following quotation is typical of many expressions received in connection with the Engineering Supplement to the WEIR "Book of Facts.")

"The writer has read with considerable interest your page ad in the Nov. 5th issue of American Artisan, and will appreciate receiving a copy of the Weir Book of Facts with the Engineering Supplement.

"Your concern is a recognized leader in attempting to build our industry to a higher standard of installation, and we always like to keep in touch with the theories developed by your Engineering Department."

Unprecedented response

*from warm air heating contractors
and other furnace manufacturers*

YOU, too, will find it interesting and useful. It explains the application of the Standard Code in detail and gives tables making it easy for you to use the Standard Code in figuring all your installations.

There is no obligation—it is absolutely FREE—we have a copy of the Weir Book of Facts Engineering Supplement ready for you.

This Supplement also contains the 4th Edition of the Standard Code, complete with new factors.

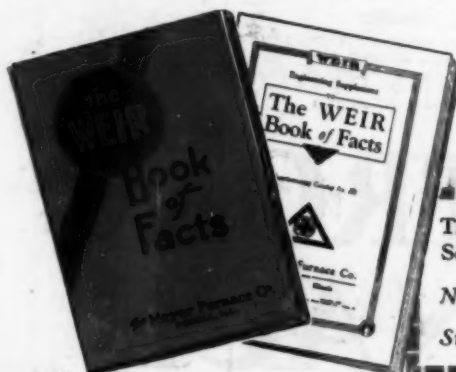
Once you see how simple it is to use the Standard Code you will use it because you *know* that it will help increase your sales and boost your profits.

When you are able to tell your prospective customers that you use the Standard Code in installing warm air heating systems, you are going to land more business.

When you explain that the Code insures a scientific and first quality installation, you will get your prospects interested in better heating and that's what they want.

Send the coupon today

The MEYER FURNACE Co.
Peoria, Illinois



The Meyer Furnace Co., Peoria, Ill.

Send me a copy of your WEIR BOOK OF FACTS with Engineering Supplement

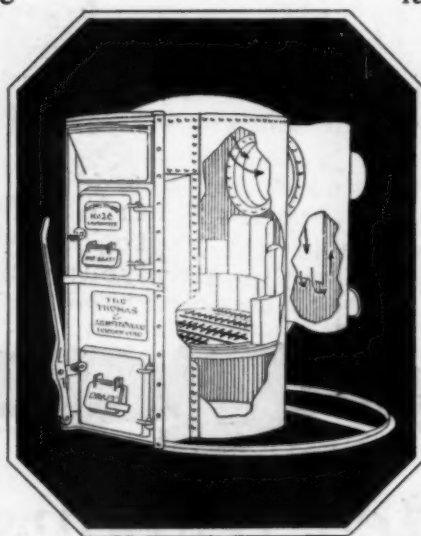
Name

Street..... Town..... State.....

Just What is This Thing We Call "STANDARD CODE"?

IT is certainly not the cheapest way of installing a furnace—not a "bargain counter" way of increasing business. "Standard Code" is simply the *right* way. It is just this: A quality rule for the industry. In order to increase the quality and popularity of warm air heating, we have pledged ourselves to make every job scientifically right. It is sound business to adhere to the standard code.

But how foolish it is to follow the quality rule only half way. How inconsistent to sell a good installation, but a cheap furnace! The furnace, like every other part of the heating plant, should be modern—scientifically right.



The modern furnace is made of heavy copper bearing steel boiler plate. It is both riveted and welded to make certain that it will withstand the stress of contraction and expansion and remain gas and smoke tight forever. It is scientifically proportioned to radiate a maximum amount of heat with the greatest fuel economy. It costs no more than a cast furnace of equal capacity and is far cheaper in the long run—therefore easier to sell.

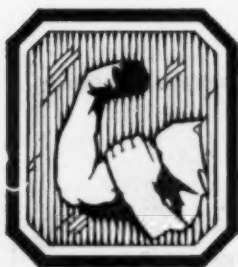
We make just such a furnace and guarantee it for ten years when installed according to standard code. Include the ARMSTRONG FURNACE in your quality rule. Have you our latest specifications and prices?

THE THOMAS & ARMSTRONG COMPANY DEPT. A. A., LONDON, OHIO

DISTRIBUTORS

A. Y. McDonald Mfg. Co.
Omaha, Nebraska
Dubuque, Iowa
Kansas City, Missouri
Robinson Furnace Co.
Chicago, Illinois
Moncrief Furnace & Mfg. Co.
Dallas, Texas

N. H. Rand
Holicong, Pennsylvania
Cincinnati Sheet Metal & Roofing Co.
Cincinnati, Ohio
Stockhoff Supply Co.
St. Louis, Missouri
Heating Supply Co.
Pittsburgh, Pennsylvania
J. G. Roeller
2517 Bryant Ave., S.
Minneapolis, Minnesota
Rhodes Mfg. Co.
Grand Rapids, Michigan



*The
Boiler Plate*

ARMSTRONG FURNACE



Big "Bill," XXth Century Foundryman, with his 16 lb. sledge hammer

2 blows break the ordinary feed section of the same thickness



It takes 8 terrific blows to break a XXth Century feed section

THIS demonstration is convincing evidence of the toughness and durability of Century Metal used in making XXth Century castings.

Another supreme test is the spraying of cold water on red hot XXth Century castings just after they come out of the molds. Under these extreme conditions they expand and contract without cracking.

From records kept, the average life of a XXth Century Furnace is $24\frac{1}{2}$ years—almost twice as long as the average furnace.

Every XXth Century Furnace owner is a XXth Century booster for life. The complete XXth Century line is solid, substantial and profitable. Send the coupon today for the dealer proposition.

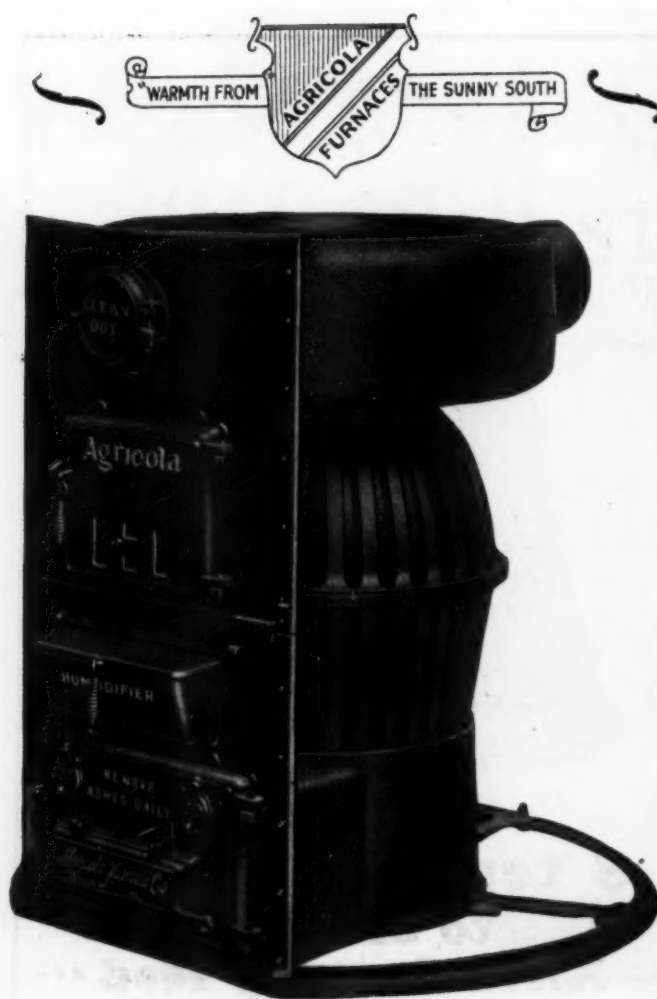
**The XXth Century
Heating & Ventilating Co.**
Akron, Ohio Est. 1893

Also manufacturers of the popular priced Portage Furnaces, XXth Century Steel Furnaces, Pipeless and Single Register Furnaces, Room Heaters, Hard Coal and Coke Furnaces, Auxiliary Gas Burners, Horizontal Flow Heating and Ventilating Systems for schools, churches and public buildings. Originators of the Overhead System of Heating.

The XXth Century H. & V. Co.
Akron, Ohio

Without obligation, please give me complete facts on your dealer proposition.

American Artisan



Agricola

YOU'LL GO SOUTH THIS WINTER, TOO—when you find out how much better you can do with Agricola.

This is what Agricola means to you—a new furnace designed by experts of many years standing and manufactured in one of the largest and most up-to-date furnace foundries in the country. Machine molding equipment is costly yet Agricola has the best of this new type of furnace making machinery. Modern methods of large production make it possible for us to put more quality into Agricola furnace at a lower cost. A better furnace built in a better plant. Study Agricola construction **NOW**. Write today for special circulars which illustrate and describe Agricola furnaces in detail.

Agricola Furnace Company
GADSEN, ALABAMA



**There's a Vast Difference Between a
Pile of Metal in the Basement
and a Real Heating Plant**

WHEN your customer, Mr. Home Owner, comes to you he is about to buy comfort—warmth—some device that will give that to him easily—permanently—economically.

**Sell Him Service Rather Than So
Many Pounds of Metal**

When you show him the NIAGARA you give him just that which he desires—a sure satisfaction heating plant.

One that will actually do all that you claim for it.

One that will meet his needs and exceed his expectations.

One that he can use as long as his house lasts.

A furnace on which you can **make a profit**. And that is important.

**Start selling service with the furnace
that is known as giving such results.
We'll be glad to tell you more about it.
Write us.**

THE FOREST CITY FOUNDRY & MFG. CO.
1220 Main Avenue Cleveland, Ohio
Also Manufacturers of Monarch Furnaces



A Perfect Combination of

**Superior Design
Superior Materials
Superior Workmanship**

Design alone is not enough. The best of materials are useless in incompetent hands. But when skilled workmen are given the finest of materials and a perfect pattern to follow, the result is certain to be Superior — the SUPERIOR line of furnaces.

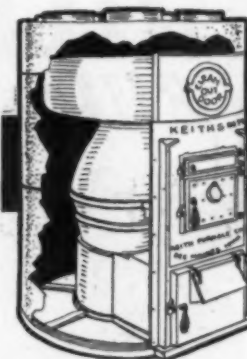
UTICA HEATER CO., Utica, N. Y.,
Division of NATIONAL RADIATOR CORPORATION
365 E. Illinois St., Chicago, Ill.
Makers of SUPERIOR Pipe and New Idea
Pipeless Furnace

SUPERIOR WARM AIR FURNACE

SUPERIOR DEALERS ARE EXCEPTIONALLY LOYAL—WHY?

A Better Day in the Furnace Business

A NEW age in furnace selling and furnace installation is here, when scientific heating principles are replacing mere sales talk and fancy show features. The dealer handling the Keith line is a step ahead of the times, as always. He is backed by an engineering service second to none, and by a furnace which has built a broad reputation on the solid foundation of scientific construction for meeting every heating problem.



NEW—The New Keith catalogue is just off the press. Write for your free copy to day.

KEITH

Furnace Co.
Des Moines, Iowa

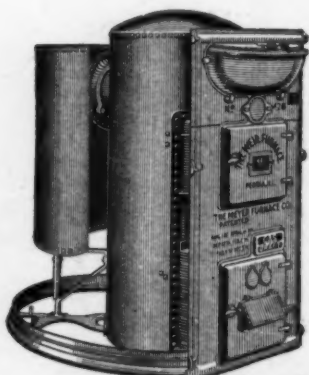
"Always Save Money in the End"

Mention AMERICAN ARTISAN in your reply—Thank you!

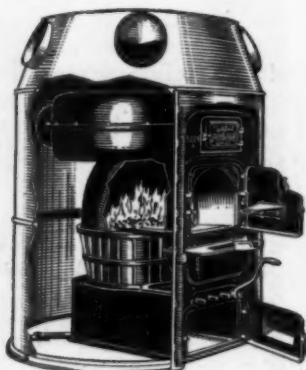
IT'S HERE!

We speak of the Fall Rush when Real Service is absolutely necessary if you are to retain the good will of your customers.

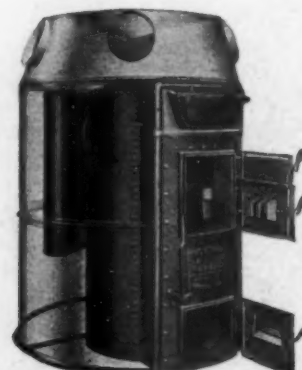
From no other source, do we believe, can you obtain such Complete Selection and Satisfactory Service on either Furnaces or Supplies, as from the "Standard Folks."



Weir Steel Furnace



Nesbit Moist Heat Furnace



Stanco Steel Furnace

We have everything needed by the Furnace-man. Ask for General Catalog No. 15 and Furnace Catalogues and Prices.

STANDARD FURNACE & SUPPLY COMPANY
OMAHA, NEBRASKA

BRILLION FURNACES



NOTHING but a high quality furnace is worthy of a first class Standard Code installation.

And when your customers see a high quality furnace like the BRILLION going in the job they will know that the better installation they are paying for is going to be worth it.

And the best of it is you can get real high quality furnace construction in BRILLIONS at a fair price.

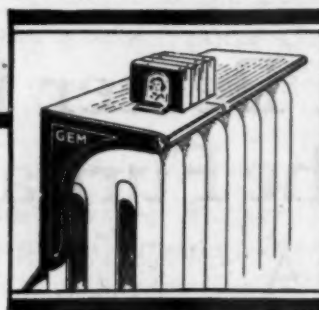
Write today for prices and catalog—use the coupon.

BRILLION FURNACE CO., 17 No. La Salle St., Chicago
200-300 Park Ave., Brillion, Wis.

Send me full details and catalog No. 60

Name

Address



"GEM" Adjustable RADIATOR SHIELDS

FEATURE the attractiveness as well as the protectiveness of "Gem" Radiator Shields. With their richly artistic design and dignified gold-bronze or aluminum finish they convert radiator-tops into shelves of permanent charm and usefulness.

"Gem" Radiator Shields

save fuel. And curtains and upholsterings stay fresh and clean, because "Gem" Shields do not permit dust or dirt to rise from between the radiator coils.

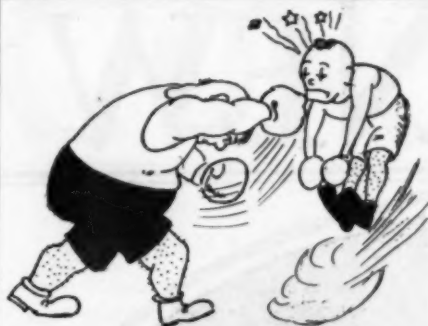
The 8 most popular sizes are adjustable to radiator top widths, 6" to 13"; lengths, 11" to 65", and retail at \$4 to \$7.

BUY FROM YOUR JOBBER

1140 BROADWAY NEW YORK N.Y.



Mention AMERICAN ARTISAN in your reply—Thank you!



Weight Wins Here!

Weight holds the advantage in prize fights and in selling cast iron furnaces, everything else being equal.

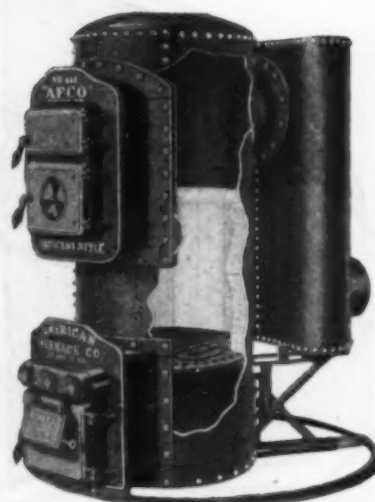
* The design of cast iron furnaces has become practically standardized. Weight and price are the chief sales arguments and neither gives a dealer a real sales advantage over his competitor.

It's like two grocers competing in the sale of sugar. They both pay the same price per pound and only by cutting the selling price can one gain an advantage over the other, but at a sacrifice of profit.

The dealer who sells "AFCO" Boiler Plate Furnaces has a distinct product with many different sales appeals. He is not in the keen price and weight competition because he has a superior furnace which can easily be shown to be worth its price and each sale yields a good margin of profit.

The "AFCO" sales plan shows you how to get the profitable business in your community. Can we send it to you? American Furnace Company, St. Louis, Mo.

*(We have made and sold both cast iron and Boiler Plate furnaces for 28 years.)



"AFCO" Crescent, one of the winners

Heavy Gauge Steel Helps "AFCO" to Win Every Heating Battle

BOOMER

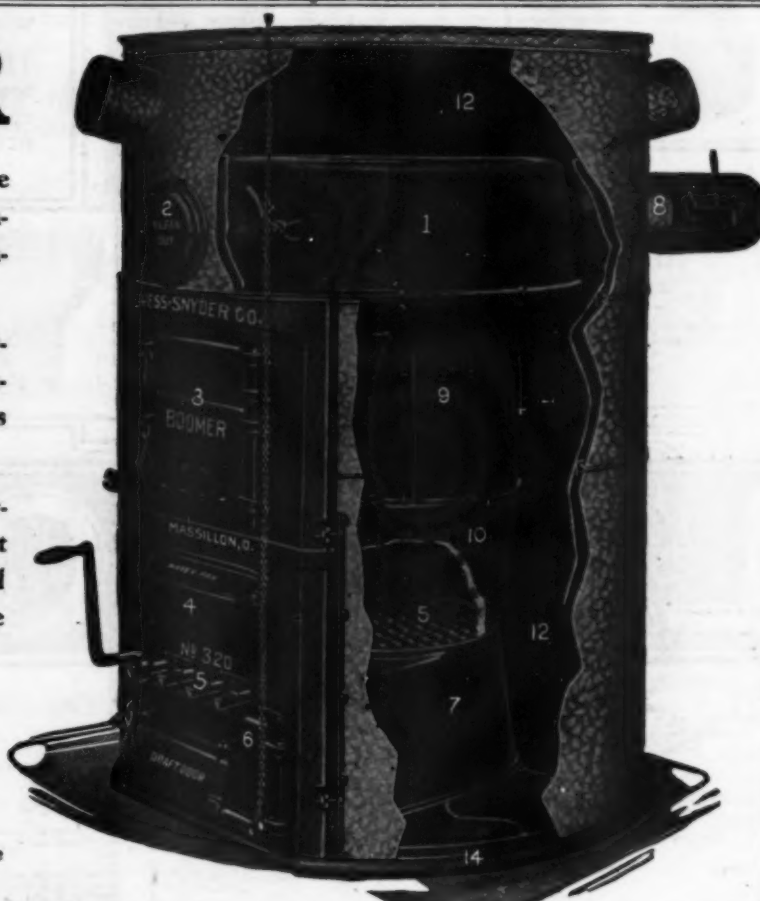
THIS is our latest addition to the Boomer line. We heartily recommend it for your favorable consideration.

The severe tests we have given this furnace have proven its durability. The unsolicited reports we received from users last winter have been most flattering.

For durability, economy, easy to operate, easy to set up and the low price at which we offer this furnace, you will make no mistake in arranging for the agency.

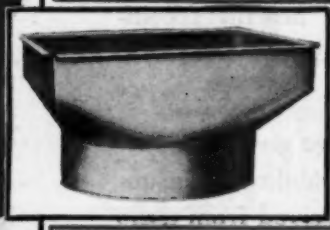
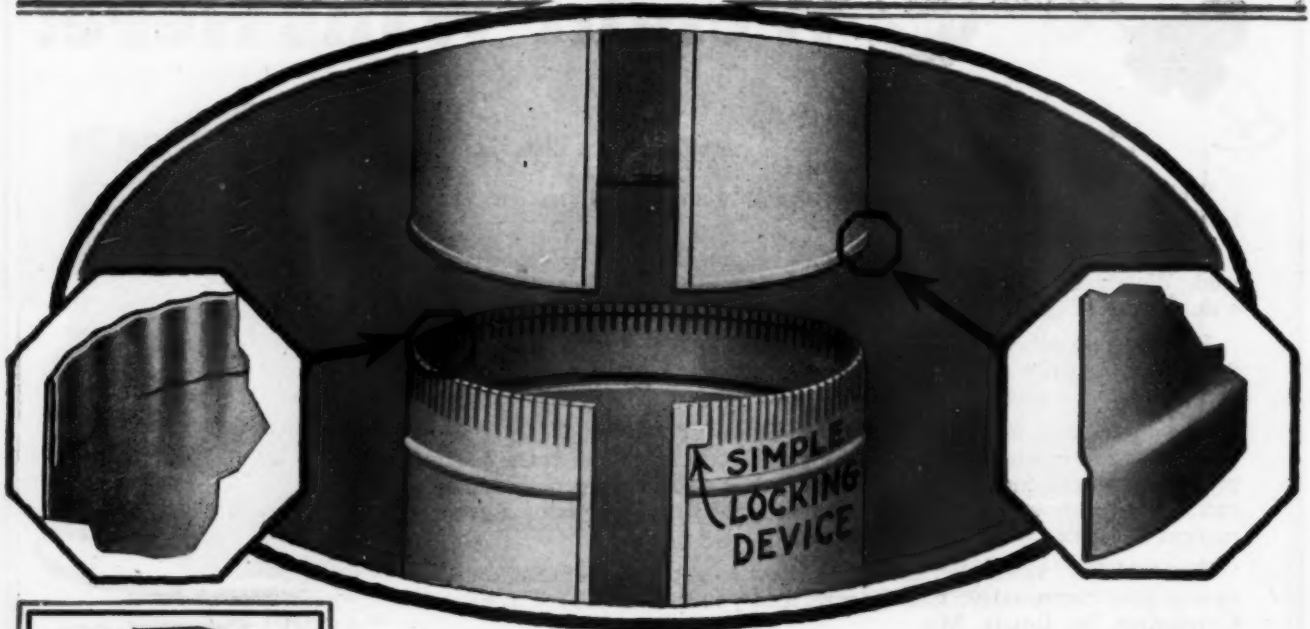
THE HESS-SNYDER CO.
MASSILLON, OHIO

Makers of BOOMER FURNACES for Forty-Three Years



When writing mention AMERICAN ARTISAN—Thank you!

The NEW



NOTICE the folded edge on the two ends of the pipe shown above. See also that in addition to the folding, the female end is larger at the very end, while male end, likewise folded, is smaller. (See details to right.)

This new construction will be used on all round tin pipe and elbows and on the round end of all tin fittings. Some of these products are shown to the left.

PATENTS
APPLIED
FOR

LAMNECK SIMPLIFIED PIPE AND FITTINGS



GET BUSY NOW!

Although it is not compulsory that names be submitted on the contest blank to the right, it is provided for that purpose. Read details of the contest and get busy now. Why shouldn't you be the winner?

Mention AMERICAN ARTISAN in your reply—Thank you!

CONSTRUCTION

The new Lamneck construction, for which we seek a name, (contest details of which are given to the right), will be used on all round tin pipe and elbows and on the round end of all tin fittings, effective on and after January 1, 1928.

THE new construction affect the pipe or fittings at the point of union on both the male and female ends. There is no change whatever in the general design of the products which will embody these features.

The advantages, briefly, are these:

1. Makes assembling far easier and 5 times faster.
2. Adds greatly to rigidity, giving the strength of much heavier gauge than you actually pay for.
3. Minimizes damage or distortion in handling due to increased strength and protected ends.
4. No raw edges to cut hands in assembling or adjusting elbows.

IMPORTANT: Dimensions not changed. Will fit any standard make of round pipe or fittings.

Two unique features are responsible for these multiple advantages. First: Both the male and female ends have the double or flange-fold ends which give the added rigidity, eliminate the danger of cutting and minimize damage from handling. Second: The female end is offset; that is, it is larger in diameter at the very end, in the same way that the male end, because of crimping is smaller. Connecting is as simple as dropping one ice cream cone inside another—a blind man could do it. Presto—it's on! And then it grips—for the flange-folded offset edge extends back only a fraction of an inch.

NOTE: Although especially designed machinery has been installed for the purpose, and this new operation will increase our production costs, yet, no extra charge will be made for this new feature.

Orders mailed in now will be filled in the order of their receipt. Our present catalog may be used, but in ordering, signify that the new construction is desired.

THE W. E. LAMNECK COMPANY

416-432 Dublin Avenue, Columbus, Ohio

We Want a Name For It!

1st Prize . . . \$50.00
2nd Prize . . . 30.00
3rd, 4th and
5th Prizes, each 10.00

WE want a deserving name for this new construction and believe the furnace men in the field, the men who will actually use the product so constructed, best able to name it. However, it is not necessary that contestants be LAMNECK customers. For the best name submitted, we are offering the prizes listed above.

Good names are often the result of a moment's thought. Read the details of the construction and its advantages, and jot your suggestion down on the contest blank below, and mail in as early as possible.

The contest will close at mid-night December 15th. All suggestions should be in our hands at that time! The judges will be:

JAMES J. THOMAS,
Mayor of City of Columbus

ALLEN W. WILLIAMS,
Sec'y. Nat'l. Warm Air Heating and Ventilating Ass'n.

L. WAYNE ARNY,
Publicity Director, Nat'l. Warm Air Heating and Ventilating Ass'n.

E. C. BLAIR,
Pres. and Treas., The Robbins & Pearson Co., Advertising.

NOTE: In case a satisfactory name is not given through the contest, we reserve the right to name the product ourselves, but will pay the full amount of the prizes for the best that are submitted. In case the winning name is submitted by more than one contestant, the full amount of each prize will be paid to each tying contestant.

LAMNECK

SIMPLIFIED PIPE AND FITTINGS

THE W. E. LAMNECK COMPANY
416-432 Dublin Ave., Columbus, Ohio

ATTENTION: CONTEST EDITOR

Gentlemen: Below is my suggestion for the name of your new construction.

Name

Address

When writing mention AMERICAN ARTISAN—Thank you!

ROBINSON STEEL FURNACE

Made of
TONCAN COPPED
MO-LYB-DEN-UM IRON
Fortified against
RUST AND CORROSION



Designed According to the correct Rating Formula---

THAT means that it is an up-to-date furnace—not only built sturdily of the highest quality material but designed to render the highest heating efficiency.

Notice that there is plenty of room for cold air return and easy flow of air over radiating surfaces.

The ROBINSON is Electric Welded Throughout to insure absolute leak proof construction. It is furnished with one or two outlets as desired.

Notice that the radiator is supported independently—no weight on furnace drum.

New Dumping Device—One Piece Circular Grate—large water pan—lever shaker handle, and Shipped with front assembled are other features that you will appreciate.

The agency for the Robinson Steel Furnace means steady profits on a reliable furnace—write today for full details.

The A. H. ROBINSON COMPANY
MASSILLON, OHIO

REPAIRS

for **STOVES-FURNACES-BOILERS**

Send for our illustrated Order Blanks

NORTHWESTERN STOVE REPAIR CO. CHICAGO-ILLINOIS

"American Seal" FURNACE CEMENT

Roof Cement—Stove Putty
Plumbers Putty

PAINTS and SPECIALTIES


WILLIAM CONNORS PAINT MFG. CO.
TROY NEW YORK

Established 1852

JAMES L. PERKINS

Western Distributor


140 S. Dearborn St., Chicago, Ill.



BOLTS

WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS. CATALOG ON REQUEST.

THE LAMSON & SESSIONS CO.
THE KIRK-LATTY CO.
1971 W. 85th St. Cleveland, O.



PATTERNS FOR STOVES AND HEATERS

THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

PATTERNS

FOR STOVES AND HEATERS

FIRST-CLASS
IN WOOD and IRON

VEDDER PATTERN WORKS


ESTABLISHED
1835

TROY, N. Y.

IRON AND WOOD

STOVE PATTERNS

QUINCY PATTERN COMPANY
QUINCY, ILLINOIS



Whether It Is Pictured Here Or Not—

it is in our catalogue if it has to do
with the installation of warm air
furnaces.

And if it is in our catalogue,
It Is Right!
So is our **SERVICE!**

F. MEYER & BRO. CO.

PEORIA, ILLINOIS



A NEW STEEL REGISTER

WATCH FOR IT!

----- here soon

A NEW LINE

— FOR THE NEW YEAR —

Registers that meet every Standard Code
requirement—*Full Capacity—Improved Features*

A new Register Line that will appeal to everyone
—HIGH QUALITY—ATTRACTIVENESS

Warm Air Heating Contractors and Jobbers

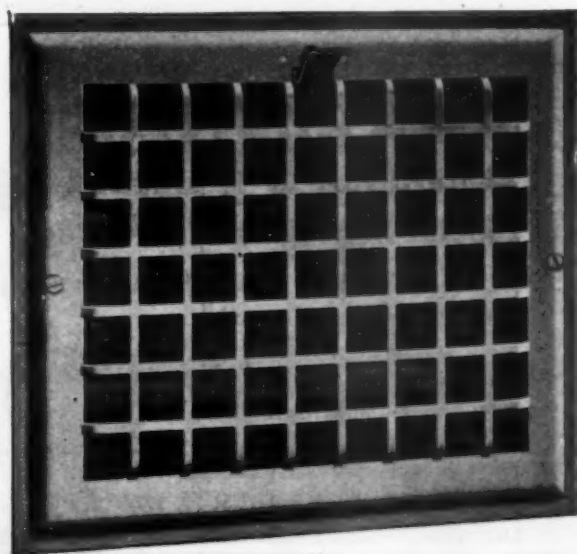
Watch for further news in this paper of this
Greatest Register Development in Twenty Years



THIS NEW REGISTER MEANS
BETTER REGISTERS AND BETTER PROFITS

WAIT FOR IT!

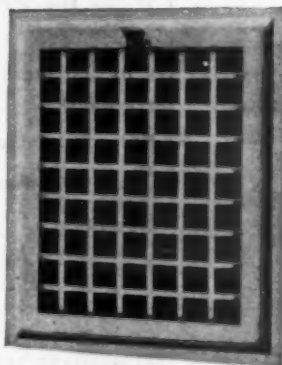




MORE and more dealers are coming to realize the importance of finishes in connection with warm air registers. The ugly black japanned or glaring white metal object called a register is not tolerated in the home of today as in times past. Beauty is considered as essential as mechanical efficiency.

Tuttle & Bailey, pursuing the policy of keeping pace with the times, has introduced an exclusive line of

Register Finishes and Volume Sales



Style 41, Vertical Wafer
Sidewall Register
Our Style 39, Horizontal, is
shown at top of page

finishes with their registers. Finishes that have greatly increased T&B Register sales. Finishes that make registers an asset in the decorative scheme of a room—that help furnace installers satisfy customers—and dealers to do a better business.

The styles 39 and 41 Wafer Sidewall Registers shown on this page have proven very popular in our TANVORY and TANBO finishes. It will pay you to mail coupon below for details regarding T&B Registers and Finishes.

TUTTLE & BAILEY MFG CO.

Makers of Registers and Grilles for 81 Years

441 Lexington Avenue

New York City

TUTTLE & BAILEY MFG. CO.

A A 11-19-27

441 Lexington Avenue, New York City

Gentlemen: Please send details regarding T & B Registers and finishes.

Name

Address

.....

Mention AMERICAN ARTISAN in your reply—Thank you!

Founded 1880

Published to Promote
Better
Warm Air Heating
and
Sheet Metal Work

American Artisan and Hardware Record Sheet Metal Work-Warm Air Heating

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PROFESSOR A. J. MACK ON FARM VENTILATION

Sheet metal contractors doing business in rural communities are constantly coming into contact with a demand for the construction and installation of ventilating systems particularly adapted to the ventilation of farm buildings. This demand leads to considerable complexity on the part of the sheet metal contractor because of the multi-varied employments of ventilation in this type of work. A cattle housing requires one type of ventilation, while a hay mow may need an aeration system entirely different.

In order to set sheet metal contractors right on this subject of farm ventilation and to give them facts which they can use to advantage, AMERICAN ARTISAN has secured an exclusive series of articles on this subject from Professor A. J. Mack, Department of Mechanical Engineering, Kansas State Agricultural College, Manhattan, Kansas. The first of this series will appear in a near issue of AMERICAN ARTISAN. Watch for it.



*"You can tell 'em for me"
says the furnace dealer*

"The HEAT-O LINE of FURNACE FANS and BOOSTERS is doing wonders for my business"

"Never thought it could be done," he says, enthusiastically,

"Here I've gone along for years without making real money. Now, the HEAT-O LINE has opened my eyes. So far I've closed a number of jobs at prices that are far beyond what I ever thought I could get for furnace work. Trouble was, I never sold quality jobs, but come to find out, it's not so hard as I thought it was. **The sales are so easy because the arguments are so different.** I can get high class work with HEAT-O FANS and BOOSTERS and they make good. I have found that out, thanks to HEAT-O engineering service. Take my tip, furnace dealers, get busy now and make money. You can do it with the HEAT-O LINE, on new and old jobs."

Dealers Are Successful

HUNDREDS of dealers can tell you this story — that the HEAT-O LINE is making good everywhere it is used. We are doing our best to help them in every way.

Talk BOOSTERS on every job. They'll back up everything we claim they will do. There are hundreds of jobs to prove it.

Get the HEAT-O Catalog now. Make this your most profitable heating season.

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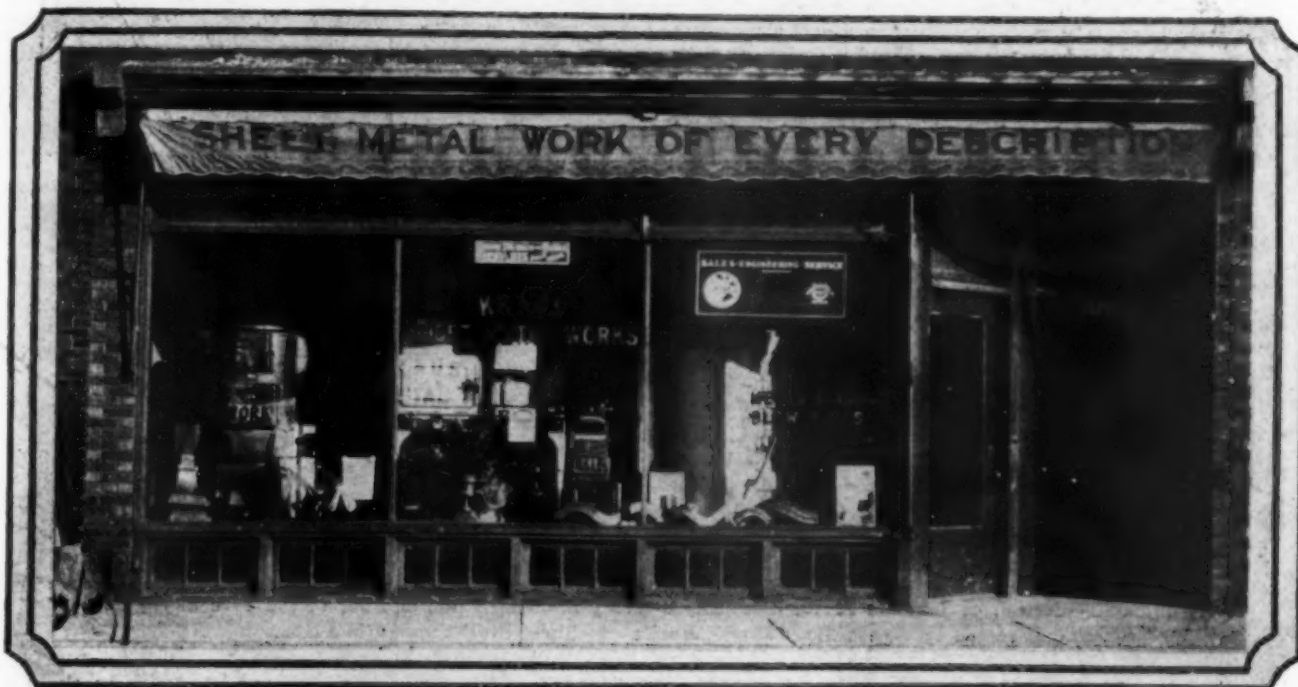
American Artisan and Hardware Record



Vol. 94

CHICAGO, NOVEMBER 19, 1927

No. 21



Attractive Window Display of the Kraus Sheet Metal Works, North Chicago, Illinois, Has Resulted in Bringing Much Business to the Company.

Metal Canopy Lends Inviting Appearance to Johnson Co. Office Entrance

13,000 Feet of Flashing Also Installed by Kraus Sheet Metal Works, North Chicago

By GEORGE J. DUERR

THE industrial plant offers the progressive sheet metal contractor abundant opportunity to employ his ability and creative genius to the fullest possible extent, as well as to make some money.

There are innumerable jobs, such as constructing roof ventilators and skylights, placing flashings, constructing and erecting canopies over entrances, erecting metal storage houses and installing heating and ventilating jobs, all of which can be had by the sheet metal contractor who first prepares himself by study and experience to do such work and then goes out after it.



Urn Hammered from Sheet Copper by Andrew Kraus.

The Kraus Sheet Metal Works, 1717 Sheridan Road, North Chicago, Illinois, whose proprietor is Joe Kraus, had the good fortune recently to step into a large sheet metal contract at Waukegan, Illinois, during the summer of this year. The job has kept them busy for several months.

The Johnson Motor Company, formerly of Indiana, makers of boat motors, decided that it would be to its advantage to move its plant and offices to Waukegan, Illinois. A beautiful site was selected along the lake front just north of Waukegan, and a large plant requiring an in-

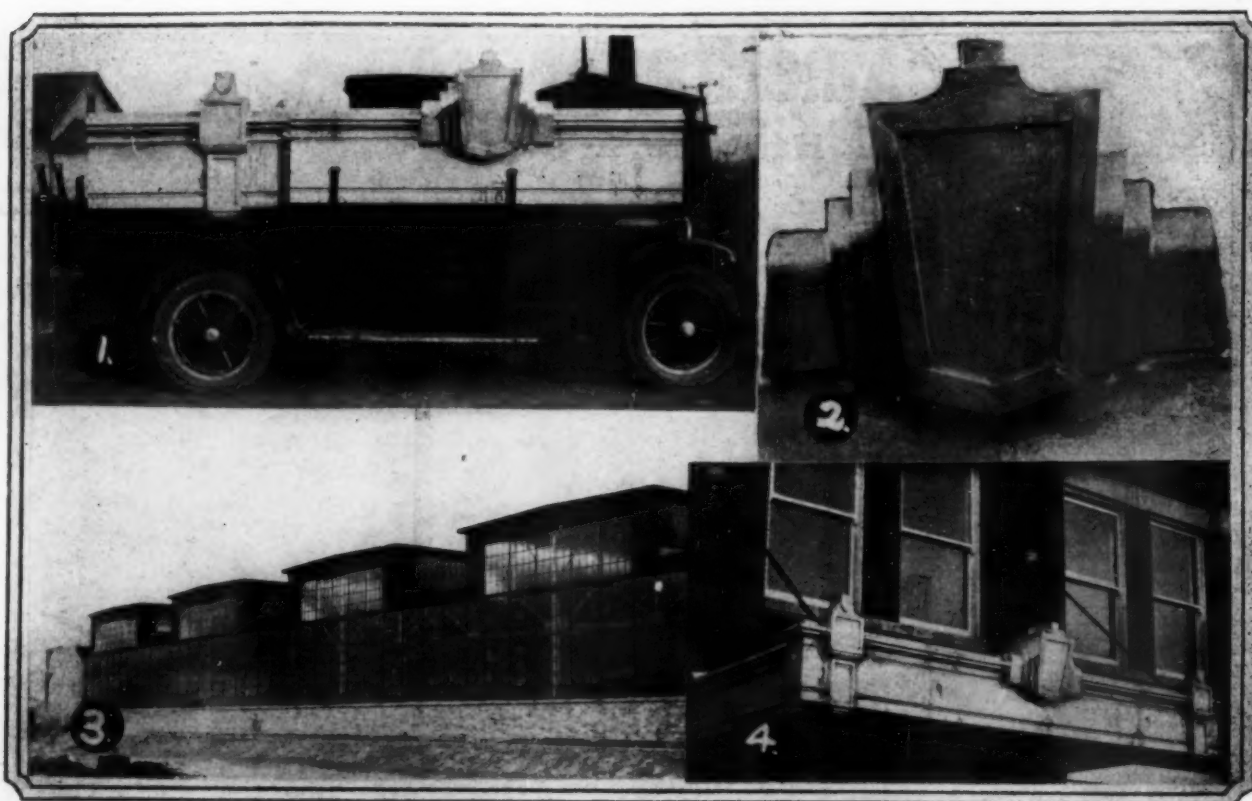


Figure 1—Section of Sheet Steel Canopy Ready for Erection Over Office of Johnson Motor Company. 2—Center Piece of Canopy. 3—Section of Johnson Motor Company Factory Showing Ends of Four of the Five Skylights Erected by Kraus Sheet Metal Works. 4—Sheet Steel Canopy in Place.

initial outlay of \$1,500,000 was erected and equipped.

It was in the erection of this plant that the Kraus Sheet Metal Works came in for the big contracts.

In the first place they were called upon to make and erect the ornate sheet steel canopy which now hangs serenely over the office doorway facing Lake Michigan. This canopy was designed by Andrew Kraus, brother of the proprietor. It was all hand made in the shop of the Kraus Sheet Metal Works and erected in sections over the entrance to the office of the building. The canopy in sections ready for shipment to the job, the canopy in position and the center piece are shown in illustrations Nos. 1, 2 and 3, above.

By far the largest job which the Kraus Sheet Metal Works obtained on this new plant of the Johnson Motor Company was the construction and erection of five mammoth skylights on the roof of the building, each 336 feet long. Steel flashings were used throughout on this building, and 13,000 feet of this

material was put into use on the building, all of the work being done by the Kraus Sheet Metal Works without outside assistance. See illustration No. 3 above. The flashings are all thoroughly painted.



Left—Joe Kraus and His Brother, Andrew, Snapped on the Job.

Having completed this work in a satisfactory manner, the Kraus Sheet Metal Works thought it had just about received its due share of the contract. They were, however, not adverse to taking any other work that was to be had, and so the erection of the boiler house, made entirely of corrugated sheet steel, fell to their lot as well. About the last job that came to this progressive sheet metal contractor was the connecting of the boilers to the vertical stack outside. This might be termed not strictly within the line of work of a sheet metal contractor, but it kept the men busy and brought in a profit.

The Kraus Sheet Metal Works is operated by a progressive and practical man and a trained personnel. It has grown from a small one-man affair to a point where it is known not only in its own home town, but in all of the surrounding towns, where it is continually doing work.

Several successive additions have been made to the plant. These were all progressively outgrown, and, as Mr. Kraus explained it, "they have



Side View of the Sheet Steel Canopy Over Office Entrance of Johnson Motor Company, Showing Construction of Corner Posts. Canopy Made Entirely by Hand.

gotten to a point now where further expansion will make it necessary for them to buy additional land for their plant before they can expand further."

The company is a firm believer in window displays and a modern sales room. The accompanying illustration on page 107 shows the attractive way in which the window display of the company is kept at all times. At the present time the window is shown containing two furnaces, a fan and a gas stove, with several smaller pieces of sheet metal work included.

The urn shown in the center of the window and containing the fern was beaten from a flat sheet of copper by Andrew Kraus, brother of the proprietor. It was made entirely by hand and is burnished so that it is an extremely attractive ornament for the window or sales room. This urn containing the fern is shown in another illustration.

The window is changed quite frequently and is always maintained in a very fresh appearing condition, so that it attracts the attention of the passerby and provokes inquiries.

Mr. Kraus has so thoroughly made himself and his company known to the inhabitants of North Chicago and surrounding towns

that much of his work comes to him without solicitation, although, of course, he does not neglect this latter phase of the enterprise in the least.

The designing and layout work of the company is done for the most part by Andrew Kraus, who is one of those sheet metal artisans par-

excellence. He learned his trade on the other side of the big pond and he certainly learned it well, as one glance at the copper urn he made by hand will attest. He is thoroughly devoted to sheet metal working. He is also a graduate from the pattern drafting school of O. W. Kothe and he certainly knows his sheet metal.

The shop of the Kraus Sheet Metal Works is a thoroughly modern work room, with plenty of light in all parts and near all work benches. It is so arranged that materials and finished work can be taken in and out of it with the least possible inconvenience. It is also heated by a warm air furnace located in the basement. The sales room, which is quite large and well arranged, is also heated with a warm air furnace, so that demonstrations are easily made to prospective customers.

The city in which this progressive sheet metal company is located is not a large one, which shows that regardless of the size of the city, the company can grow just as rapidly as it is able to do so with the right kind of attention and business getting methods.



One of Employees of the Kraus Sheet Metal Works Standing Near Canopy Just Before It Was Swung Into Position.

Describing How Addition of Cornice Beautifies Building

Designing of Cornices Requires Considerable Training as Well as Special Skill

By O. W. KOTHE, Principal St. Louis Technical Institute, St. Louis

THERE are many sheet metal workers little qualified to do good architectural cornice work. Cornice work is the parlor of the trade, the most beautiful and skilled pieces of work pass through this department.

Tradesmen without training can never design cornices or help make suggestions for customers, general contractors, builders and even architects.

Sheet metal shops should recognize the limitations of the younger professional men and offer their technically trained experts to co-operate with them. It is friendship, co-operation, and it brings in many a contract with a higher bid, and many an order without any contract price. Lots of shops do not know how to use a technical trained man, and discourage their own men from taking training in order to help them—they are afraid they may have to pay them a few dimes more, or may lose them. Such notions are all wrong. An employer who gives a technical trained man a chance to try out his ideas and suggestions will before long bring in lots more business, and that makes such men worth much more than the scrubs who can only do repair work.

Big business, like steel, chemical, machinery, etc., could never in the world have developed in such amazing style if it were not for their technical experts—the engineers, the chemists, laboratory research work conducted by specialists, etc.

Today nearly all warm air heating men acknowledge the wonderful good the research laboratory has done and is doing for them at Urbana, Ill. Still, thousands of shops and many more journeymen studiously ignore the knowledge that is brought to their door in many cases free of charge. This goes to

show the negligence of tradesmen—they want all the advantage, but do not want to put themselves out one iota to gain greater prosperity.

For some years past the architectural cornice field has been receiving new life. The rapidly rising cost of stone and terra cotta is a big feature. The extra weight and labor in setting the heavier materials is also an item. The retirement of the older architect and the younger architect favoring sheet metal is also a great asset. Then there is the vast advertising program carried out by the material association as well as the Sheet Steel Extension Committee, as well as numerous other factors are laying the ground work for a considerable revival of sheet metal cornice work.

Good galvanized iron or copper well put on and the former protected with paint every few years will last as long as most buildings stand in this country. Why, in the larger cities it is nothing to raze 18 to 30 story buildings, making room for taller and more stately edifices. Recently an able man told me that most of the 40 to 50 story buildings in New York will be torn down and rebuilt on a vastly grander scale within the next 50 to 100 years. That is something to think about. We of today who build, thinking our name on a business structure may last a few centuries, like in Europe, are mistaken—here neighborhoods go up one generation—go down the next—and are replaced by grander structures by another. A look around any city will verify this, and not one of us can visualize the future where improvement and expansion will cease.

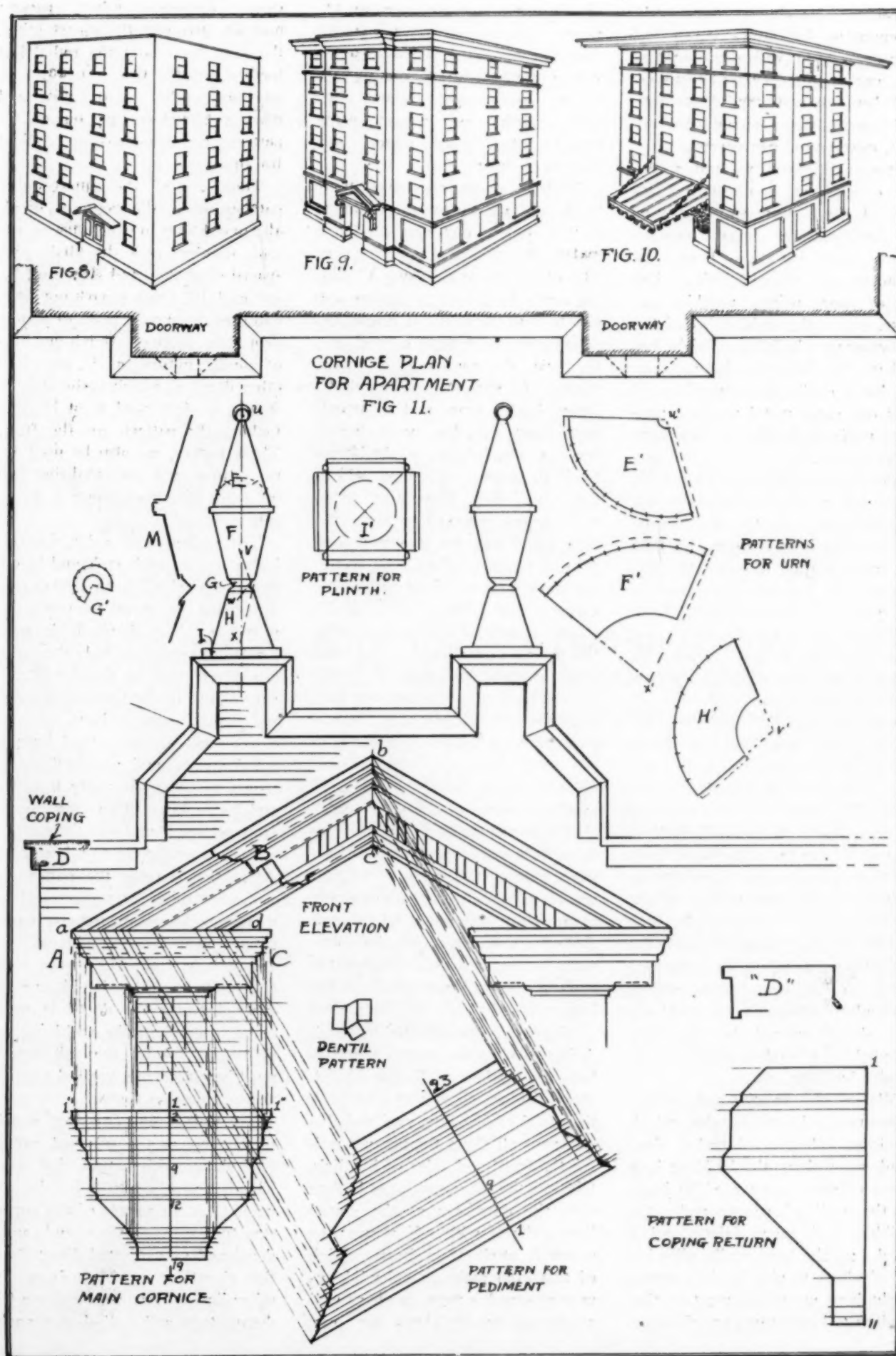
Sheet metal men have, therefore, a long uphill pull ahead of them—where they can work for unbounded opportunities, that none of us can

imagine today. In these few articles that are to follow we shall take up important features of design. I believe this is very important—more so than too much pattern drafting. We need super qualified men, and to hold them down to small mechanical details will never develop or expand the mind to give expression to trade feelings in a larger and broader way.

Now, a lot of sheet metal men may wonder what is the good of cornices anyhow. Most men know they are used, but why and how is another matter. So Figure 8 has been prepared to show a six-story building without much ornament. The building looks tall and bare, the eyes strike it, pass up, glance over the top and move on, giving no consideration to the structure. This building has only straight walls and windows; it looks lonely, forsaken and inexpensively forbearing.

We notice that a building can be nicely erected without any architectural embellishments. The interior can be made just as beautiful and comfortable, whether the outside has any ornamentation or not. The Greeks of classical times were one of the first to recognize the distinction a cornice and other exterior ornament makes for a building. These peoples made their ornaments as a part of the structure; thus stone slabs, beams and pillars were an actual part of the structure. But the Romans came and started the practice of planting the ornament on the outside of structures. This condition is still being followed, as we shall see in later articles.

Now, if we take the same building we have in Figure 9 and place a jog in the front wall, and to stretch a few bands of mouldings around, as well as use a cornice on the top—an altogether different appearance



Architectural Cornice Designs and Patterns

is made. This shows what a little trimming up does, and it is just like men dressing up with white linen, a nice neck tie, and creased trousers. This lends character and distinction, and it shows that a person's brain is neat, orderly and prosperous.

Here in Figure 9 we have a cornice of moderate or normal projection. It lends grace and dignity to the building, the several smaller bands loan variation from the monotonously straight walls. The use of jogs, offsets, moulds, cornices, etc., is the architect's tool for trimming up a building. But he has to have the feeling in his mind or his hand could never produce it. Nor can sheet metal workers produce pleasing designs if they have never studied it.

Observe our design in Figure 10, which has a wide cornice, some additional jogs in the wall, some bands and a large marquee for over the entrance way. Observe the vast amount of difference this makes. Compare with Figure 8 or 9. Each building is the same size, and drawn from the same centers affecting its proportion. The difference comes in by utilizing ornamental trim. A cornice produces light and shade reflection, and a good design produces grace, dignity and character. Thus we see Figure 8 looks tall and far away, especially if we cover up Figures 9 and 10 and only look at Figure 8. On the other hand, Figure 9 shows a grace and strength as well as dignity, that neither of the other two views can approach. But to look at only Figure 10, with the other two covered up, our structure seems smaller, closer to us, and is particularly inviting. We could say this design would be especially adapted for a hotel or a club or fraternity building, etc.

We see the greatest outstanding difference is in the cornice, which produces large, broad, deep shadows, making the building look lower or more squatty. The jogs in the wall of course make the building look more dainty, and it breaks up the large walls, allowing for shadows to play in the corners. Right here we might mention that modern tall structures are eliminat-

ing the overhanging cornice, for the reason that a narrow projection does not serve the purpose, and a wide projection is not permitted, or is too cumbersome. Hence, the same results are sought using straight lines, jogs, offsets, and buttresses, spires, etc.

Modern skyscrapers and many hotels and apartments are meant to be tall, and to omit the cornice it makes the structure appear taller. The new form of recessing a building every twelve or so stories also aids to lend the effect of height, depending on the straight vertical lines to break the monotony of large spaces. All such structures well designed lend a grace and an artistic appearance that has never before been accomplished in buildings. Such structures, of course, add to the cost. But, then, this is an achievement reserved to every nation, when they get strong, powerful and wealthy—they build monuments to portray their prosperity. Egypt did it, Greece did it, so did Rome, France, England, and now this country is adding a new and more glorious structure for commercial purposes than has ever been attempted. Where sheet metal workers have lost the external trim on such structures they have gained vastly more in heating auxiliary purposes for sheet metal.

It is on the smaller structures, up to, say, six stories or so, where sheet metal trim is still popular. In Figure 11 we show the cornice plan for a four-story apartment where over the offsets which form the doorways, an ornamental structure is erected such as we show in the lower part of plate.

The cornice as indicated by detail A is typical to the cornice that follows the wall as in Figure 11. A short distance above this cornice A the metal coping D is run, and this also runs all along the parapet wall for the front and sides of building. Observe the main cornice is broken over the doorways as the dotted lines indicate with self returns, or as our front elevation shows. A job of this kind makes a splendid appearance, and is very simple as well as inexpensive. There are only

three different miter pattern methods involved, the square miter, the butt miter, and the radial line method for the urn. So any man who can develop a gutter miter and make a funnel can get out all the patterns we show here or required for this job.

Thus, for all the square miter patterns we use the section A, divide all curved lines in equal spaces, and with dividers pick the girth, each spaced separately and step it off below as 1-19. Draw stretch-out lines, and then from each point of section drop lines to cross stretch-out lines of similar number as 1', etc. The other detail C, which is the same as A, can be developed as at 1'', thus making the pattern for the front. These miters can also be used for the returns, and the metal that falls off from an outside miter is an inside miter.

The pediment or gable forms a butt miter on each end, and in our case the bevel a-b is on a 30 degree, thus being convenient for projection purposes. The detail B is quite similar to section A, only the fascia is shorter, and the flancier is narrowed, and the bed mould supports the dentil course. Here also we divide each of the curved lines in equal spaces, and project lines or points to cross the miter lines a-d and b-c. After this pick the girth from section B and step them off on a line perpendicular to a-b as 23-1. After this develop the pattern as any other miter by projecting lines as shown. The dentil pattern is very simple, merely reproducing the front view, and adding the sides and bottom. We should say the space between the dentil is made equal to one-half the width of the dentil itself, and that all dentils must be placed in a vertical position as our elevation shows.

The wall coping D is very simple to develop, as the enlarged section "D" shows with pattern for same. This is a square return for the corners. But the miters of the superstructure are face miters and can be developed or projected direct from the elevation, working from the miter lines. Here we require a 90-degree turn and a 45-degree angle,

and are developed similar to face miters we treated for the leader heads of past issues.

In developing the urn, we see, it is made up of cones, similar to a funnel. The side lines are extended to the center, which gives the radius for each part, as u-v-w-x. By means of these we describe the patterns shown at E'-F'-H'-G'. At M, we show how the several parts are assembled and soldered. A three-inch ball is soldered on the top, which completes the ornament. In laying out the plinth I, it is well to describe a circle on the top for a guide line in setting the cone H in position. We should mention all these members must be well soldered—not just stuck together, but heavily soldered. They are tall and there will be considerable wind pressure on them so the coping must be securely anchored and the urn free from leak.

The details of cornice work are so varied that most tradesmen feel vague and hazy toward the work. Men will understand a certain design thoroughly, because it has been studied, and almost the next day another job comes up that is very vague and hazy—they are not so sure about it—they fear their interpretation is wrong—there might be something they do not see, etc. Thousands of sheet metal workers have told me these things, and I remember I was troubled by the same detail blindness years ago. A person knows and yet a person is not so sure, and because of this lack of confidence a person holds himself in the background—letting bolder spirits pave the way. Their opportunity is your loss, and that is a hair-splitting factor which makes some men successful; others because of too much fear to keep them failures.

As I remember in my own experience while wandering from pillar to post every few years, I used to look with eyes that saw but understood not. I heard men talk about trade methods, but understood not—the things were not built up inside of me, and, therefore, my mind could not comprehend the things that had never been thought

out. I found it takes time and concentrated effort with a forceful will power for nature to tear away the curtains that befog a person's eyesight. The very fact that a person is a good mechanic does not assure him he can read drawings easily. No, sir! And just because so many thousands of men who flatter themselves at being good mechanics but who cannot read a blue print—that is evidence they only have had working knowledge; the brain has not yet been geared to think in geometrical terms.

Sheet metal men who would be right at home with any sort of blue print plan must first learn to draw same—to limber up the mind and get it to look at things geometrical. That is why so much work and effort is being put on these articles to get our tradesmen to understand the correct methods and to become more successful. The trade possesses enough men with a fine

strong Rolls Royce body, but having a jitney brain. We want to build a super-powered engine in every man's head so the body can enjoy more comfort service and satisfaction. So to merely look at these drawings and say, yes, "that is a wall coping," and then close the mind to it—that is not enough. Get out your drawing board and re-detail this problem below Figure 11, and also develop such other patterns not shown here.

Remember, the sheet metal trade is too large and varied to learn in any one shop or to become acquainted with around pool tables or across card tables. No! Indeed not. You have to project yourself into more serious stuff than that in order to have all-around qualifications. I hope each of my readers will get into the new architectural cornice prosperity period, and make themselves champions of it, 100 per cent plus.

Fort Wayne, Indiana, Contractors to Hold "Pep" Meeting December 1st

*All Indianians Invited to Attend—
Meeting to Promote Good Feeling*

THE Fort Wayne, Indiana, Furnace & Sheet Metal Contractors' Association is planning a get-together meeting in their town on December 1, with the idea in mind of promoting better feeling among sheet metal and warm air heating men throughout the state of Indiana, according to Paul R. Jordan, 631 South Delaware Street, Indianapolis, Indiana.

Charles E. Tharp, Secretary of the Fort Wayne organization, is actively in charge of initial arrangements.

The other officers of the Fort Wayne organization are J. W. Loney, President; H. A. Hilbrand, Vice-President; Joseph J. Freiburger, Treasurer; C. C. Seib, W. C. Huguenard and James Wheeler, Directors.

Several automobile loads are planning to make the trip from Indianapolis and other of the larger

centers, but it is probable that most of the visitors will come into Fort Wayne individually at their own convenience.

The following letter is being mailed out giving notice of the event:

"We are planning a "PEP" meeting with the Fort Wayne Sheet Metal Contractors on Thursday, December 1st, in the form of a dinner followed by an informal get-together session.

"The Fort Wayne Association has appointed a committee to look after the details and say that they will arrange to get all of the boys there from Fort Wayne. We want every manufacturer and jobber of sheet metal or furnace supplies to be on hand, or to be represented. We want every salesman who makes Fort Wayne to be on hand; in fact, he can't afford to miss it.

"Kindly advise me whether or

not you will be there, and whether anybody else from your firm will be present. We should have this in-

formation in not later than November 20th in order that Fort Wayne can complete their plans."

Train Sheet Metal Apprentices to Meet Demand for Skilled Workers

Apprentice of Today Will Be Executive and Foreman Tomorrow

By LOUIS LUCKHARDT

"WHAT is being done to train sheet metal workers?"

That is the question frequently asked of members of the Vocational Education Committee, and we must frankly admit, we do not know.

That there is a need of training boys to become competent sheet metal workers is admitted.

That some attempt is being made to supply the necessary instructors and equipment to do this training is also admitted, but we do not have reports to show that the apprenticeship training problem is given the serious consideration which it deserves, excepting in several of the larger cities.

The Chamber of Commerce of the United States, in a recently issued News Bulletin, No. 27, emphasizes the need of "Building for Industrial Efficiency Through Trained Men."

In referring to the future supply, the following appears in this bulletin: "Unfortunately there are still those who say that 'We can go out and hire what skill we need.' But it is obvious that were this policy universally adopted there must soon come an end to this supply of skill, and if we face the facts many sections have already seen the 'hand-writing on the wall.'"

We must face the facts as we find them. With the restriction on emigration, we can no longer hope to supply our needs of skilled workers from the ranks of men who come to us with European training, which permitted them to quickly adapt themselves to the somewhat changed conditions and the different methods they found in the sheet metal industry in this country.

In order to make up the losses

from the ranks of journeymen through death and the tendency of mechanics to enter other fields, and in order to have a sufficient supply of men to meet the ever-increasing demand for sheet metal work, we must train apprentices.

At the National Convention held at Atlanta in June, 1925, a National Apprenticeship Training Plan for the Sheet Metal Industry was presented by the Vocational Education Committee and adopted by the Convention.

The plan covers a schedule of school work, which, together with shop work, requires four years to complete. It is so arranged that it can be adapted to local conditions, and can be as effectively taught to one or two apprentices as to larger groups or classes.

In it is provided instruction for developing patterns for various articles used in the industry, and in general it is found to produce the best results when the student is permitted to form up and assemble the article for which he has developed patterns.

When the plan was first presented to the convention, some of the members expressed themselves as doubtful that desirable boys could be induced to become apprentices, especially if they had advanced as far as high school in their studies. They believed that such boys were looking for "white collar" jobs.

It has since been proven that their fears were unfounded. A number of high school graduates have been attracted to the sheet metal trade, where an attempt was made to sell them the opportunities offered in the industry, and to show them that a systematized course of study per-

mitted them to make rapid advancement.

There is a certain fascination in the sheet metal trade which is lacking in most of the other building trades.

In many of the trades the material that enters into an installation is factory made, and delivered to the job, which resolves itself into an assembly proposition, while in our business it is necessary to develop and fabricate the various parts from the flat sheets supplied to the industry. It is this factor, where a boy can see the transformation of the flat sheets into complete installations of every conceivable shape, that has an appeal to his imagination and his desire to create, or make something worthwhile.

The committee unfortunately does not have complete reports to show what cities have seriously taken up the training of apprentices and organized classes.

We know, however, that at Chicago, Louisville, Peoria, Washington, Erie, Cleveland, Milwaukee and at Pittsburgh classes are regularly receiving instructions and much progress has been made. No doubt there are others which have not reported to the committee.

We have reason to believe that the course is being taught in a number of vocational, or manual training schools throughout the country, as a considerable demand for copies of the plan came from principals and instructors in such schools.

All of this is more or less a generalization of the problem. What really matters is—

What are you going to do about it?

Are you training apprentices to fill the gaps which are sure to occur in the ranks of your workers?

If you are not alive to the issue, you may find it difficult to find sufficient men to permit you to expand your business when the opportunity presents itself.

To train at least one apprentice is no burden on even the smallest shop. If trained according to the plan, you will find that, instead of an expense, you will get greater returns within a shorter time than you

had expected. In many cases boys who had finished two years of school work could do work which most of the journeymen employed in the same shops were unable to do.

Training apprentices is not an expense, it is an investment, and the returns on your investment depend on how prudently you make it.—Reprinted from Texas Sheet Metal Contractors' Bulletin.

Master Sheet Metal Men Of Wisconsin to Support Trade Development Book Project

The Master Sheet Metal Contractors' Association of Wisconsin held their monthly meeting on November 7. Those present were: C. Tolg, A. Goethel, W. Gehrke, C. Pansch, P. Biersach, L. Reinke.

The minutes of the October meeting were read and approved.

The letter from the National Association Sheet Metal Contractors was read. This asked all those not having subscribed to the Trade Development Book to kindly send in their order. All spoke very enthusiastically of wanting to support the project, but due to the fact that other matters had occupied their attention they forgot to take care of this. On motion duly made and seconded the secretary was instructed to bring order blanks along for the next meeting and also have a supply on hand at the state convention convened. It is the opinion that through this means many signatures will be received.

Mr. Markle's letter wherein he obligingly offered aid in the preparation of our Convention Year Book was read. The secretary was instructed to acknowledge his proffered help and refer same to the Convention Committee.

The secretary then read a letter that had been sent to all state members wherein they were asked to forward the names of all concerns they bought from to the secretary's office. An appeal was made with this reading to have these replies sent in at the earliest possible date. This co-operation was promptly promised by all.

Sheet Steel Culverts Become Life Saving Rafts During Flood in South

Sheet metal in its many different forms is rapidly establishing itself as a most useful, reliable servant of the public. Not only is it being called upon to render service in conjunction with the ordinary pursuits of industrial, commercial, and residential life, but in times of stress and disaster it has already proved itself a staunch helper.

P. H. Cotton, proprietor of the P. H. Cotton Metal Works, 4628 Bienville avenue, New Orleans, Louisiana, has described for us a way in which sheet steel was pressed into service in order to aid the flood victims to escape watery graves.

"The ordinary 18-gauge corrugated galvanized iron culvert," writes Mr. Cotton, "proved to make excellent pontoons, once their ends were tightly sealed.

"Ordinary culverts 24 inches in diameter and 20 feet in length were bolted together in twos with metal bands. Upon these were fastened wooden planks, thus fashioning a serviceable raft capable of carrying 40 people. These rafts were assembled by the American Legion Post No. 114, of which Mr. Cotton is a member. Many of these rafts were shipped to the flooded areas and pressed into the service of carrying refugees of the flood to safety.

Milwaukee Sheet Metal Men Draft Resolution For Employers' Council

The Master Sheet Metal Contractors' Association of Milwaukee held their monthly meeting November 9, 1927.

President Schumann called the meeting to order at 8:15 o'clock, with twenty-one members answering to the roll call.

Due to many present having other engagements that they had to fulfill, it was decided to dispense with the regular order of business and take up the resolution to be sent to the Employers' Council.

Each part of the resolution was carefully gone over, and various

members spoke on all things to be considered in the final framing of same. The arguments for and against different sections were interestingly presented, and the discussions lasted so long that the regular business for the evening was dispensed with.

Finally after the most thorough consideration, on motion by Mr. Jeske, seconded by Mr. Goethel, the resolution was amended to read as follows:

"The Employers' Council of Milwaukee be requested that future lists of open shops contain only such individuals or firms as are:

"First, opposed by labor unions.

Second, will not contract or do work on jobs having a clause calling for union labor."

The usual attendance prize was given and Mr. Alfred Goethel proved himself to be the lucky one.

Houston, Texas, Sheet Metal Women Form Auxiliary and Prepare for State Convention

The Houston Sheet Metal Contractors' Association of Houston, Texas, and the Auxiliary met at the Etie Sheet Metal Works, 1509 Washington Avenue, on October 31st for a Dutch supper, according to W. R. Etie.

At this meeting the ladies organized an Auxiliary, and the following officers were elected: President, Mrs. W. R. Etie; Vice-President, Mrs. W. S. Hadley; Secretary, Mrs. Zay Smith; Treasurer, Mrs. A. Bender; Chairman Phone Committee, Mrs. Charles Eisemann; Press Reporter, Mrs. W. E. Harrison. These women have already begun preparations for the State convention next year.

Mr. Hadley spoke to the men on the betterment of the association, Zay Smith on the fair price of labor, Charles Vogler on better construction, and W. R. Etie on bad debts and how to stop peddling bids and cutting prices.

After each man's discussion, different members in the audience asked questions, which produced valuable discussion, making everybody glad they had attended.

**Asbestos Shingles Awarded
To Slate and Tile Men—
Asbestos Strip to Carpenters**

Here's a somewhat unusual request which came to us from Charles H. Robinson, president of the Henson Robinson Company, Springfield, Illinois.

TO AMERICAN ARTISAN:

"Kindly ascertain the true award by the Board of Jurisdictional Awards as applying to the installation of asbestos shingles.

"We have a job tied up by the carpenters, who claim their headquarters in Indianapolis say it was awarded to them. Our Sheet Metal and Slate Roofers claim it was awarded to them by the Board in 1920."

* * *

In response to this inquiry C. K. Bentley, Citizen's Committee, Landis Award, with headquarters at 10 South La Salle Street, summarized the ruling of April 28, 1920, as follows: "Asbestos shingles are put on by the slate and tile roofers and not by the sheet metal men. By this same ruling asbestos strip shingles are awarded to the carpenters."

**Booklet on Steel Roofing for
the Rural Structure Issued
by Sheet Steel Trade Extension**

The latest release from the Sheet Steel Trade Extension Committee, Oliver building, Pittsburgh, Pennsylvania, is an 8½x11-inch booklet on "Steel Roofing, Its Use and Application."

The little booklet is designed principally to sell the idea of sheet steel roofing and in doing this the authors of it have incorporated into it information of great value to the sheet metal contractor and his helpers.

All types of steel roofing are described. The uses to which any particular type of steel roof can best be put to is also thoroughly discussed and can be read with a great deal of enlightenment by every one in the sheet metal contracting business.

The information contained in the booklet on lightning and how to prevent it from destroying farm

buildings is in itself sufficient reason for acquiring the booklet. The booklet can be read and digested in from forty to forty-five minutes and will make sales of sheet steel to rural communities a much easier proposition than it has ever been before.

The various names that are applied to the sheets and how these names are derived, such as "primes," "seconds," "wasters," etc., are all given. In addition to this the entire process of making sheets from the taking of the virgin ore out of the ground, through to smelting and refining processes, on to the "blooming," rolling, pickling and galvanizing, how the gauges are obtained is all included in this very instructive little booklet, which should, therefore, be reposing in a conspicuous place on the desk of every sheet metal contractor. It can be had by writing to the Sheet Steel Trade Extension Committee, Pittsburgh.

**New Jersey Zinc Co.
Issues Handy Note Book
for Sheet Metal Men**

The New Jersey Zinc Company has prepared a small booklet which

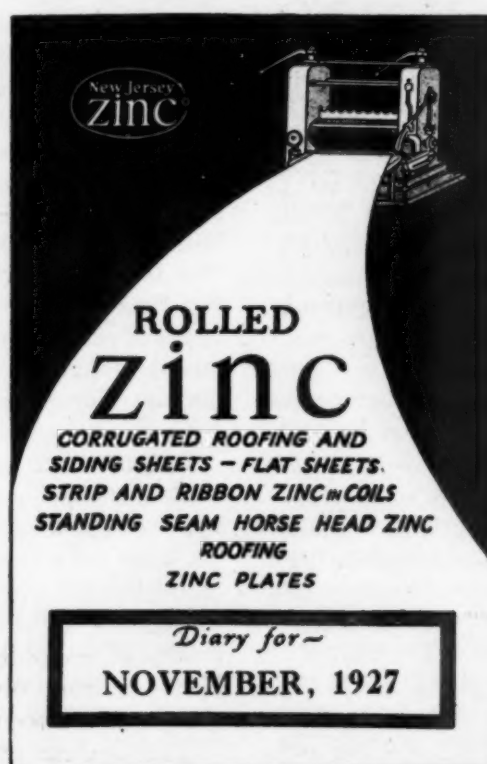
it is sending out to its friends. The booklet is a diary for one month, the last page of which contains a calendar for the year. The booklet is 2½ inches over all. It contains 30 or 31 blank pages, according to the month of the year. The accompanying illustration is that of the front cover of the booklet. It is a very handy little notebook and can be had by writing to the New Jersey Zinc Company, 160 Front Street, New York City.

**J. M. & L. A. Osborn Co.
to Issue "The Osborn
Stock List" Quarterly**

Sheet metal contractors will be glad to learn of the appearance of the first edition of "The Osborn Stock List," gotten out by J. M. & L. A. Osborn Company, which is to be issued quarterly.

The publication is the idea of John A. Decker, sales manager, and is 4½x8¼ inches over all. It gives the U. S. Gauge and size, the estimated weight per sheet, the number of sheets per bundle, the average stock in bundles at Cleveland, and an innovation, the net extra size discount.

In addition to giving these prices,



Showing Front Cover of Pamphlet

the pages of "The Osborn Stock List" will feature a few specialties in each issue.

The back inside cover will carry a list of second-hand tools and a list of new tools that are slightly shop worn, so that the publication, making its appearance quarterly, will be extremely useful to those for whose benefit it is being put out. If you desire to have your name on the mailing list, write to the J. M. & L. A. Osborn Company, 1541 East 38th Street, Cleveland.

Chicago Metal Manufacturing Company Issues New Catalog

A new catalog of interest to sheet metal and warm air heating contractors, listing and illustrating hundreds of metal products, has just been issued by the Chicago Metal



Some of the Forms Obtainable

Manufacturing Company, 3723 South Rockwell Street, Chicago.

Simultaneously with the issuance of this new catalog the company announces the installation of a new power forming press, one of the largest made to enable them to turn out specification metal forming in the largest size.

A page of illustrations in this new catalog pictures the company's power shears, forming presses and punch presses in operation.

Stock items listed in this new

catalog include conductor pipe and fittings, eaves trough and hangers, ridge roll, formed valley, flat and corrugated sheets, blow pipe elbows, rolled steel flanges, grain spouts, etc. The catalog also lists furnace pipe and fittings, dampers and stove pipe and elbows.

The company specializes in metal stamping and forming and illustrates in this booklet special steel cabinet work, such as metal files, radiator cabinets, card and index files, as well as other items which they manufacture to order from specifications.

A copy of this catalog can be had on request.

Unishear Produces New Electrically Driven Small Shear

The Unishear Company, Inc., 270 La Fayette street, New York, have recently placed on the market what they term the Mighty Midget cutter. The device is electrically operated, making it possible to do cutting



The Power Driven Shear

wherever an electric socket is available. The machine is said to be capable of cutting 15 feet of 18-gauge metal per minute.

The accompanying illustration will give the reader an excellent idea of the appearance of this new machine. Complete details can be had by writing the Unishear Company, Inc.

If Injured Installing Device on Ships, You're Entitled to Compensation

Tradesmen and others who occasionally work aboard vessels were provided with compensation rights

in the "Longshoremen's and Harbor Workers' Compensation Act," effective July 1st of this year. Employees who are sent on board for any purpose connected with the ship's business are included. Among these are ship chandlers, supply men, such as grocers, butchers, dairy men and bakers, newspaper, ice cream, soft drink, or laundry delivery men, repair men of all sorts, and installers of special equipment, such as lighting, heating, ventilating, refrigerating, and radio appliances. Cargo handlers, other than members of the crew are also beneficiaries.

Compensation ranges from \$8.00 to \$25.00 per week in addition to medical expense. Provision is also made for dependents in case of death from injury.

Employers, subject to the law, no matter how infrequently, are required to carry insurance protection either with an authorized carrier, or by obtaining from the commission a permit to self-insure. A fine of

\$1,000 and imprisonment are provided for failure to comply with these provisions.

The administration of this Act is entrusted to the U. S. Employees' Compensation Commission, Washington, D. C. The country has been divided into fourteen districts with offices in the principal cities. The Chicago office, located at 1769 Transportation Building, is headquarters for the Tenth District, including the shipping on Lakes Michigan and Superior and the Mississippi River from the Illinois-Wisconsin line northward, as well as the inland lakes.

Random Notes and Sketches

By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow feeling with all forms of existence"—Larkin

It Made a Difference

Mrs. Les Taylor had advertised for a girl for general housework and was showing an applicant over the house. She had been very liberal in her promises of privileges—afternoons off, evenings out, and so on—and it looked as though the two were about to come to some agreement. Imagine Mrs. Taylor's surprise when the girl suddenly asked: "Do you do your own stretchin'?"

"Do we do our own what?" asked the puzzled mistress.

"Stretchin'?" repeated the new girl.

"I don't understand."

"Stretchin'," repeated the girl a second time. "Do you put all the food on the table at dinner and stretch for it, or do I have to shuffle it around?"

* * *

I had a very pleasant visit from Oscar C. Hultberg, proprietor of the General Sheet Metal Works, 1526-28 Seventh Street, Rockford, Illinois, who during a visit to Chicago came in to say a few words and to get a personal acquaintance with AMERICAN ARTISAN. It was very nice of Mr. Hultberg to drop in, and I certainly appreciated his visit very much. The only regret I had was that he did not stay longer. Perhaps the next time he comes to Chicago he will have more time at his disposal. This is a pretty busy time for sheet metal and furnace men.

* * *

Some folks are certainly lucky in matters of love and otherwise, and one of these fortune's favorites is James Charles Allen, Rockford, Illinois.

An honest speeder had just hit a dog and had returned to settle his damages if possible. He looked at the dog a moment and addressed James Charles Allen who came up with a gun on his shoulder.

"Looks as if I'd killed your dog," said the motorist.

"Certainly looks that way," replied Mr. Allen.

"Very valuable dog?"

"Not very."

"Will five dollars be enough?"

"Well—I guess so."

"Sorry to have broken up your hunt," said the motorist pleasantly as he handed Mr. Allen a crisp five dollar bill.

"I wasn't going hunting—just going out in the woods to shoot the dog."

I think after that James Charles Allen ought to buy me a good cigar.

* * *

I had a very enjoyable visit on Thursday of this week from Fred Gottschalk, Chicago representative of the R. J. Schwab & Sons Company, who happened to be passing our office and dropped in to chat for a few moments.

Another visitor on Thursday of this week was Robert Satterholm of the Superior Heating Appliance Company, Chicago. These visits are very much appreciated by me and my only wish is that they were made more often.

* * *

I have it on good authority that Garver Kerch, XXth Century Heating & Ventilating Company, is an expert salesman. When he goes after his man nothing can stop him. Now with a woman it's different, as I shall proceed to enlighten you.

Mr. Kerch was endeavoring to interest a fair prospect in a overhead heating system. "Why not, says he, 'purchase an overhead heating system for your home?'"

"Home! Heating system!!" says she. "I'll say not. Why, I couldn't use one. I was born in a hospital—educated in a college—courted in an automobile—married in church—we live on delicatessen out of a paper bag—spend the mornings on the golf links—the afternoons over a bridge table—the nights in a jazz palace or at the movies. And when I die I'm going

to be buried from the undertaker's. Say, all I need is a garage, with maybe a bedroom above it."

Believe me, after that burst of oratory Garver Kerch's own opinion of his ability to sell took a rather precipitate tumble.

* * *

I heard a good one the other day on Ed Stollenmeyer, Walworth Run Foundry Company, Cleveland. It's one that Ed told on himself, so if he thinks that I'm doing him an injustice by passing it on, he has only himself to blame. The American Gas Association had a convention at the Hotel Stevens, Chicago, recently and Ed was in attendance, registering at the Stevens himself. You know Ed prides himself on being informed on all the new wrinkles in radio, racing and registers (warm air furnace). The latest in roll-away beds, however, apparently are of no interest to Ed. Everything went all right with him at the Stevens Hotel until he came to retire for the night. The boy took him up to the room he had reserved where he found all in good order, except that there was no bed in the room. Highly indignant that a mere hotel clerk should give him a room minus a bed, Ed picked up the receiver of the desk phone and called down to the clerk to put a bed in the room immediately, remarking, "did they expect him to sleep on the floor." A young lady at the other end of the wire said very, very sweetly, "but Mr. Stollenmeyer if you will press the button on the south wall of the room you will have your bed all ready for you."

* * *

"Trow" Warner, of the T. & B. New York office, had just emerged upon the drill field with his newly acquired captain's bars on his uniform. He was showing his fair guest about the camp when a bugle sounded. "What's that for?" the fair one inquired.

"That's tattoo," explained Mr. Warner.

"Oh, I understand," she remarked. "I've often seen it on soldiers' arms, but I didn't know they had a special time for doing it."

Room for Improvement in Sheet Metal and Warm Air Heating Newspaper Ads

Contractors Not Giving Enough Time to the Preparation of Advertisements

NEWSPAPER advertising is a vehicle or medium by means of which the merchandiser can acquaint his prospective customers with the merchandise he has in stock for their convenience. It is one of the tools of his trade of merchandising.

This tool can be made to produce results or not according to the nature of its construction, just as any tool will do the work for which

it is designed if proper care is exercised in its making.

Men in the warm air heating and sheet metal contracting industries are not as a rule "born" advertisers. They may be excellent business men in every other respect, but as advertisers they are not of the best.

There is a reason for this and it is not to be found in the fact that these men are not "born" advertisers. The reason lies in the fact

that they have not learned the value of patience in working out methods of catching public attention and then nursing that aroused curiosity into a fully developed desire to purchase.

An advertisement at best can do little more than arouse curiosity to a point of further inquiry. It cannot be expected to tell the whole story, because that is entirely too long in most cases. The space for

DEPENDABLE
WE SERVE TO SERVE AGAIN

METAL CORNICES
THAT ENDURE

We have made and placed metal cornices, gutters, and leaders on many of the most expensive buildings in town and we would like a chance to make a bid for your work. We are prepared with all the necessary machinery to follow accurately any design you plan. We guarantee that our work will be entirely satisfactory and our price right.



PHONE BLUE 1922
GALESBURG
SHEET METAL WORKS
CONTRACTORS
EAST TOMPKINS STREET

JEWEL FURNACES



No Smoke
No Dust
No Stoopin
Ball Bearing
Grate

A Child Can Operate

The Heating System is really "The Heart" of any Home.

JEWEL FURNACES give lifelong dependable service.

When you replace that old furnace or build your new home, specify a "JEWEL". They cost no more.

JEWEL FURNACES are sold under an iron clad guarantee to properly heat your house if the recommended size is installed.

Gundlach Sheet Metal Works
112 Division St.

FOR
ROOFING, ROOFING REPAIRS
AND SHEET METAL WORK
CALL
Washington Sheet Metal Works
Opposite Tobin's.
Phone 24311.

ROOFING
We Specialize
In All Kinds
of
METAL WORK
May We
Make An
Estimate?

GEO. F. EGOLF & SON
SHEET METAL WORK
CONTRACTING AND JOBBING
124 N. 12TH STREET
Phone 5886

—WEIR—
Warm Air Furnace
On the Market for 43 Years!
"It Does Save Coal"
ESTIMATES FREE
FRANZ and SUMMERS
Distributors
600 N. SECOND ST. MAIN SHOP
Unlimited Auto Parking for Your Convenience

PHONE 6314
SHEET METAL WORK
AT WATER KENT and GREBE
RADIO
ROOFING OF THE BETTER KIND—FURNACES
PAINT SUPPLIES—HARDWARE—ETC.
SCHLENKER HARDWARE CO.
"Service for Patronage Since 1908"
213-215 West Liberty Street

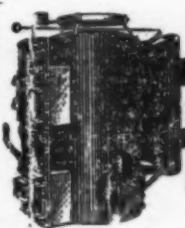
Here's the Clean
Heat Furnace!

The Waterbury Seamless Steel
furnace is the one that will
do it.

No seams to crack or loosen.
35% to 50% saving on fuel.
Absolutely clean, moist, warm
heat at any fuel.
Let us show this Waterbury.

**Howald Sheet
Metal & Roofing
Co.**

30 N. Cherry St. Main 2122



FRONT RANK
Front Rank Furnaces
Have your furnace examined now.
Repair for next winter.
Let Us Figure with You.
J. R. Schubert
SHEET METAL WORKS
115 W. 4th St.
Phone 1901

it is not available and no one would read it if it were.

In building or writing an advertisement, therefore, these facts must be borne in mind. The life of the average newspaper is very seldom more than one day. The average time spent by each individual actually perusing that newspaper is about an hour or an hour and a half. During that time the reader goes through the news, reads what interests him, and passes on, glancing over the advertisements as he turns over the pages.

That casual glance that your advertisement gets in the newspaper from the reader is practically the only contact or the only opportunity you have of grasping the attention of the reader. His eye goes roaming over the page of advertisements, all clamoring for his attention. Whether they get it or not depends entirely upon their construction.

If they contain something unusual, something different, something that makes them stand out in their own peculiar way from among the other advertisements, they get attention of a sort. But what you want is attention that is going to result in business for you, and not merely idle curiosity. So, in order to get this kind of attention, your advertisement must not only be unusual, different, but it must be so constructed as to arouse the reader's interest not from a mere point of entertainment, but from a desire to know more about the uses to which he can put the products you have to offer.

It is not difficult to be original and still get your story across in the way that it will do the most good for you. Many merchandisers have proved this. But it cannot be done on a moment's notice, and just about a moment is about all the time that is given to the writing of a great many advertisements that are expected to pull business.

The art of preparing good advertising copy is a science. This is proved by the fact that men who are exceptionally good at it are able to command yearly salaries that run into thousands of dollars. When these men write an advertisement or

a series of them, they do not sit down ten, fifteen or thirty minutes before the medium carrying their copy is to go to press and knock out what they term an advertisement. It can't be done that way. It requires study from all angles to determine the best way to present the story.

Obviously the sheet metal and warm air heating man is not able to employ high-salaried advertising men to write their copy for them, but they can themselves take a tip from the methods employed by these high-salaried men and give their advertisement writing intelligent thought, with due regard to who they want to read their messages and what they want them to know about the products and services advertised.

Many heating and sheet metal men feel that they are up against it more or less when it comes to advertising, because they are not able to turn out their own advertising copy. They feel that the advertisements that are written for them by the manufacturers are of too general nature to be of much value. They cannot permit the newspaper's advertising copy writers to prepare the advertisements entirely for them, because these men are not familiar enough with the sheet metal and warm air heating industries and their products to inject the proper spirit into the advertisements. So they do nothing at all rather than do what appears to them to be wasting money.

In this event the only sound procedure for the contractor is to avail himself of the assistance of his manufacturer and his local newspaper alike by allowing them to take care of the mechanics of the thing, while he maintains his individuality in the advertisement by supplying that little individual touch that will give the ad warmth and make it stand out just as he stands out as an individual from other men.

In the accompanying illustration there is presented eight specimen warm air heating and sheet metal advertisements that appeared in local papers in different sections of the country. They were selected at random to show the general tone of

this type of advertising. Although there has been a noticeable improvement in these advertisements in the last year or two, there is still a great deal of room for improvement.

The advertisement of the Galesburg Sheet Metal Works was taken from the Galesburg, Illinois, Mail. That of the George F. Egolf & Son was found in the Allentown, Pennsylvania, Call, while that of the Washington Sheet Metal Works appeared in the Washington C. H. O., Herald.

The advertisement of the Gundlach Sheet Metal Works was taken from the Sandusky, Ohio, Journal. The Alton, Illinois, Telegraph carried the advertisement of J. R. Schubert, while Franz and Summers advertisement was taken from a Reading, Pa., paper. The Ann Arbor, Michigan, Times-News is also represented.

**Agricola Furnace Co.,
Gadsden, Alabama,
Erects All-Steel Warehouse**

The Agricola Furnace Company, Gadsden, Alabama, has begun the erection of a large all-steel warehouse, according to an announcement by President Otto Agricola.

The building will be 80 feet wide and 300 feet long and will be of steel construction throughout. The foundations are now going down and the erection of the steel superstructure will begin in a day or two.

The Ingalls Iron Works at Birmingham has the contract.

The building will be used for warehousing the finished product of the big plant, which is now turning out house heating furnaces at the rate of about 18,000 a year.

**Juhl Brothers Move to
1607 Thirty-ninth Street,
Milwaukee, Wisconsin**

Juhl Brothers, sheet metal contractors formerly located at North Milwaukee, Wisconsin, have changed their address to 1607 Thirty-ninth street, Milwaukee, Wisconsin.

If you want some particular article on warm air heating discussed in our Furnace Annual, let us know.

Steel Buyers of the Middle West!



Indiana Harbor Works

INLAND STEEL COMPANY—with its plants conveniently located (at Indiana Harbor, Indiana; Chicago Heights, Illinois; and Milwaukee, Wisconsin)—controlling its manufacturing operations from ore to finished product—maintaining a corps of experts to aid you in your steel problems—is a logical source of supply for your requirements of:

**RAILS
BARS
PLATES
SHAPES
SHEETS**

INLAND STEEL COMPANY
FIRST NATIONAL BANK BLDG.
CHICAGO

—Branch Offices and Representatives:—

St. Louis

Milwaukee

St. Paul

Kansas City

New Orleans

El Paso

Salt Lake City

Say you saw it in AMERICAN ARTISAN—Thank you!

Warm Air Furnace Industry Offers W. C. Quigley His Opportunity for Service

Fifteen Years Ago He Had Nothing—Today His Competency Is Considerable and His Friends Legion

TO RETIRE gracefully from the storms of business life with a competency sufficient to keep him from want when old age approaches is the aim and desire of every young man in business today.

The fact that this aim is not hard of attainment in the sheet metal and warm air heating industries if proper methods are employed is proved

Landing in Boise, Mr. Quigley began his career there by helping carpenters. He had a great deal of interest in warm air heating plants, which led him to take several contracts in his spare time to make warm air furnace installations. He took pains to perform his work well and met with success enough with these installations to lead him to be-

nearer relatives. He is offering his business for sale, and included with it his home on the same lot with his two-story shop and garage.

What he leaves offers a splendid opportunity for a successor with the advantage of having an established, prosperous and successful business as a foundation for new endeavor where Mr. Quigley had next to



Home and Work Shop of W. C. Quigley, 1401 North Twelfth Street, Boise, Idaho, Warm Air Furnace Installer Who Fifteen Years Ago Had No Business and No Money

by the experience of W. C. Quigley, heating and ventilating contractor at 1401 North Twelfth Street, Boise, Idaho.

Mr. Quigley is not yet approaching old age, but he has the competency with which to take things a little easier when he does not feel the inclination to work. And it has been built up in the warm air heating and ventilating business in Boise, Idaho, during the last fifteen years.

Some fifteen years ago Mr. Quigley was living in the state of Illinois. It so happened that his brother, who was then living in the northwest, visited him, telling him that there were many opportunities in that section to be taken advantage of. Mr. Quigley was then working on a salary basis. He had no money ahead, but had a great deal of ambition to get ahead. And so he determined to strike out for the west.

lieve that he could make a permanent thing of that business.

And that was how Mr. Quigley launched himself in the warm air furnace installing business fifteen years ago in Boise, Idaho.

He lays no special claim to brilliancy or to more than an average amount of ability. He did his work well and thoroughly as he went along. By so doing he made friends in a city which he had entered as complete a stranger as anyone could. The friends that he made told others about him and the kind of work he did. In this way new folks came to him, were satisfied and in turn told their friends, and his business grew from a mere shoe-string to a point where he could buy furnaces in carload lots.

Now Mr. Quigley, after the short span of fifteen years' time, is preparing to retire and leave Boise to go to the northwest coast, to be

nothing save his determination to make a success of his effort and his willingness to work.

Here is a concrete example of what can be done in the warm air heating business by a man who has a desire to be of service to the community in which he resides and who sets out with a determination to do only good work for the money he receives and is not afraid to ask a price commensurate with the work he does.

Think of the satisfaction Mr. Quigley will derive from the thought that when the wind and Jack Frost are sending the mercury down into the thermometer bulb, the heating systems he has installed in Boise will not be found lacking in their ability to keep their owners and families warm.

Mr. Quigley's experience is related here as an inspiration to younger men

Under this Roof

the World's Greatest Race Was Run



Some Other Old Sheet Steel Roofs

JAMES FOWLER, JR.
Ambia, Indiana.
Roof installed 1909.

MILO CAMPBELL DAIRY
FARM, Coldwater, Michigan.
Roof installed 1914.

COURT HOUSE,
Peoria, Illinois.
Roof installed 1876.

GENERAL LANGDON'S RES-
IDENCE, Elmira, New York.
Roof installed 1875.

DR. DALE F. BARKER,
Dayton, Ohio.
Roof installed 1913.

U. S. MINT, New Orleans, La.
Roof installed 1855.

J. M. FRENCH,
Brookston, Indiana.
Roof installed 1900.

C. E. NORTON,
Skowhegan, Maine.
Roof installed 1896.

E. A. POTTER,
Lake Geneva, Wisconsin.
Roof installed 1913.

SIDNEY RIGGERS,
Advance, Indiana.
Roof installed 1914.



This trade-mark stenciled on galvanized Sheet Steel is definite insurance to the buyer that every sheet so branded is of prime quality—full weight for the gauge stamped on the sheet—never less than 28 gauge—and that the galvanizing is of the full weight and quality established by the SHEET STEEL TRADE EXTENSION COMMITTEE specification.

PROBABLY the most real thing about the Coliseum at Rome, in the minds of most people, is the supposed chariot race between Ben Hur, the Jew, and Messala, the Roman patrician; yet it was run only in the imagination of General Lew Wallace, author of Ben Hur. In his studio at Crawfordsville, Indiana, shown above as it looks today, General Wallace produced his masterpiece. About 1897, the standing seam sheet steel covering shown in the photograph, was installed on General Wallace's studio roof and remains in perfect condition to this day, after thirty years' service. Here is classical evidence of the unsurpassed durability of sheet steel as a roofing material. Other typical long-service installations are noted at the left.

For specific information regarding sheet steel for roofing, write the SHEET STEEL TRADE EXTENSION COMMITTEE, OLIVER BUILDING, PITTSBURGH, PA.

SHEET STEEL

for Strength Safety Beauty and Economy

Furnace Consumes Excessive Amounts of Fuel and Heats Basement

What Connection Between Faulty Flue and Poor Circulation, if Any?

IS there a direct connection between the failure of a warm air furnace to heat a house, a faulty flue and the consumption of an excessive amount of fuel?

Jerry Knapper, Knapper Sheet Metal & Roofing Works, Kalamazoo, Michigan, writes as follows:

"Have just noticed where you invite inquiry on special subjects in warm air heating.

"One of the things that we know actually happens, but are at loss to explain why, is this, why does a poorly constructed or leaky flue cause a furnace to use an excessive amount of fuel, and heat the basement without giving any results in heating the house? It is our opinion that a large percentage of the furnace installations that are not giving satisfaction fail because of defective or leaky flues.

"We have read a great many articles calling attention to the troubles that will arise from a defective flue, but we would like to see one that would give us the reason why these things occur."

* * *

One result produced by a leaky or poorly constructed smoke flue on a warm air heating system would be to curtail the draft, and reducing the draft would cut down the combustion rate in the furnace grate rather than to accelerate it, as no furnace or heater can function properly without the proper draft.

It should be remembered that the furnace depends entirely upon the chimney flue for its draft. If the chimney is tight so that no air gets into it except that which goes through the grate of the furnace and that caused by the down draft in the chimney, you have a perfect chimney or as nearly a perfect one as can be constructed. The air is pulled into the chimney through the grate of the furnace by the hot

gases swirling upward. Now if there are leaks in the chimney, air is pulled into it from the outside through them and the effect of the pull on the air passing through the grate is reduced. Consequently, in the attempt to restore the normal condition, the furnace is fired harder and more fuel is consumed.

In this case, however, Mr. Knapper says that the basement is hot without giving any heat upstairs. This would indicate a poor circulation caused by an insufficient warm air takeoff, poor distribution of warm air ducts around the furnace casing hood, one or more excessively long runs, or an inadequate provision for the cold air return.

The latter cause, inadequate provision for the cold air return, would not allow sufficient air to pass down into the furnace casing to carry the heat generated away. The consequence would be that the basement would be heated by the furnace as though there were no casing around it at all. The only reason for placing the casing around the furnace in the first place is to provide space within which the air can accumulate, be heated and pass up into the rooms above. If the air cannot circulate freely, the heat generated by the furnace is, of course, conducted to the surrounding air in the basement where it is not wanted, a continuation of which results in the burning up of the furnace itself.

Armco Distributing Booklet of Incidents of Importance in Daily Life

A very interesting little pamphlet has made its appearance from the press room of the American Rolling Mill Company, Middletown, Ohio, which every sheet metal contractor in the industry should read. The title of this little pamphlet is, "Incidents in the Life of the Amer-

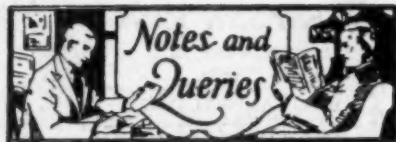
ican Rolling Mill Company," purporting to show the immeasurable importance of the seemingly trivial things that occur in every man's life.

Every sheet metal contractor reading this little pamphlet cannot fail to have a better understanding of the ways of human nature and how to handle it profitably. The ideas contained in the booklet are not merely theoretical, but have all been tried and found to work.

If you have not already secured a copy of this little publication from the American Rolling Mill Company, write a card telling them that you wish it sent on to you. It will be well worth your time and trouble.

Fred R. Bishop Placed in Charge Furnace Division Michigan Stove

Friends of Fred R. Bishop will be happy to learn that he has been placed in charge of the Garland Furnace Division of the Michigan Stove Company, according to announcement made by William J. Hill, manager of sales of that company.



Repairs for Patric Furnace

From Albert E. Schwab, Louisville, Ohio.

Where can repairs be obtained for the Patric furnace?

Ans.—Northwestern Stove Repair Company, 662 West Roosevelt road, Chicago, Illinois.

Repairs for "Wilks" Stove

From C. Miller and Sons, 1115 Broadway, Fort Wayne, Indiana.

Kindly advise us where repairs may be obtained for the "Wilks" stove.

Ans.—S. Wilks Manufacturing Company, 3517 Shields avenue, Chicago, Illinois.

Wire Sparrow Traps

From Raider & Weisner, Fremont, Michigan.

Please inform us where we can obtain wire sparrow traps.

Ans.—The Crescent Company, Toms River, New Jersey.

Acetylene— the universal gas

OCCASIONALLY one hears of a gas other than acetylene that can be used with oxygen for cutting steel.

The promoters of such gases readily admit that acetylene is the best for all other uses with oxygen.

That's why acetylene can be called the universal gas for all oxy-acetylene welding and cutting. It can be used equally well for welding thick or thin plates of metal. It is the most satisfactory for cutting steel or cast iron, and also for brazing, welding and soldering.

In fact, the very term—oxy-acetylene process—itself is a good indication of the fact that acetylene is the "universal" gas.

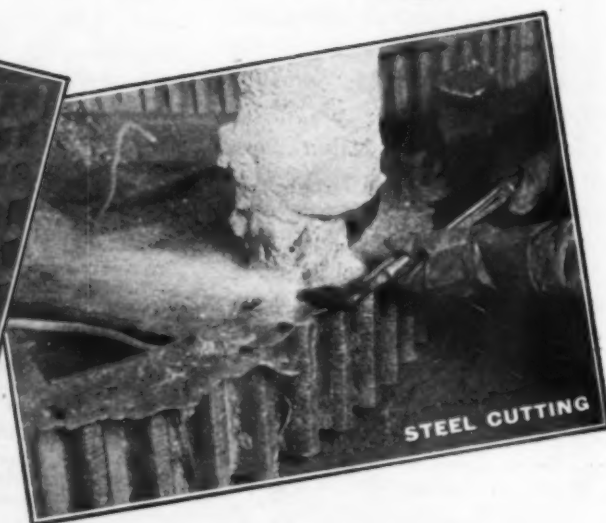
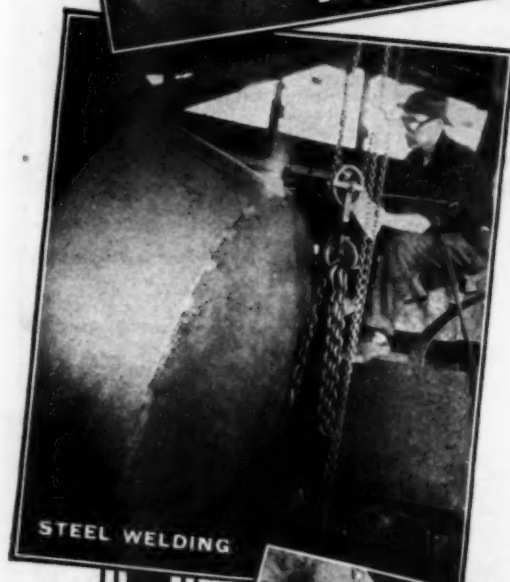
The Prest-O-Lite Company has 31 plants in operation and 101 distributing points for supplying users of this universal gas.

THE PREST-O-LITE COMPANY, INC.
Unit of Union Carbide and Carbon Corporation



General Offices: Carbide and Carbon Building
30 East 42d St., New York
31 Plants—101 Warehouses

Prest-O-Lite



To Rudy Furnace Company Goes the Credit

In our issue of November 5, 1927, page 19, there appeared an article on "Firing Efficiencies and Hints on How to Obtain the Best." This article originated with the Rudy Furnace Company, Dowagiac, Michigan, and mention of this fact was not made in the reprint in *AMERICAN ARTISAN*. This omission was inadvertent, however, and we wish to make amends for it by calling the attention of our readers to it now.

Why It Pays to Play Fair with the Other Fellow

Perhaps you have just been called in to look over the heating system of a man in your town who wants to get things ready for the winter. There are a lot of requests like that these days, says the *Furnace Installer*.

You go to the man's house and find a fairly new furnace—maybe only two or three years old. Perhaps it is connected to a poor house installation. Perhaps, also, the installation is fairly good.

Regardless, almost, of the condition of things in the basement of that house you are confronted with the temptation to go to the owner and tell him that his heating system is in very poor shape; that the only sensible thing for him to do is to tear it out and let you put in a good Code job that you can guarantee. The temptation is stronger if the installation was made by one of your close competitors.

There are a lot of dealers these days facing just that situation. And, unfortunately, a large percentage of them are yielding to the temptation and thus doing themselves more harm than they realize.

Some are not. They go to the owner and tell him frankly that his heating system is in pretty good shape. All that it needs is a new smoke pipe, or new grate bars, or another cold air return or, perhaps, a larger run to the big room on the

second floor. That's good business. It's the sort that wins friends and confidence. It makes such a lasting and favorable impression that when that man really needs a new installation he will remember where to get it. When he buys it will not be on price or from competitive bids from every dealer in town.

The other dealer, the one who tries to sell a new installation whether the owner needs it or not, may get away with it once in a while. Perhaps he can follow that policy long enough to make himself believe that it is clever business. But it can't go on indefinitely. No business policy that is not sound can go on indefinitely. It will become known. People will come to regard that dealer, eventually, with suspicion and take his advice with several grains of salt.

It pays to play fair with the other fellow. When you make recommendations, make them as though you had to pay the bills. If you can't make money on that basis, then something is radically wrong somewhere with your organization, and the only sensible thing to do is to find out what it is and correct it or go out of business while there is yet time.

D. R. Maitland Becomes Factory Superintendent Reed Air Filter Company

Reed Air Filter Company, Louisville, Kentucky, announces that D. R. Maitland, formerly of the Wagner Electric Company, St. Louis, has been appointed factory superintendent, and A. T. Doud, formerly superintendent of the Brown Instrument Company, Philadelphia, has been appointed works manager.

Another announcement made by this company is that it is completing a factory addition which doubles the present floor space. Occupancy is expected soon.

Open Letter to Old Guard Members From R. P. Boyd

"With deep regret I have to announce the death of John P. Cotch-

ett (with the American Chain Company), whose demise occurred at Saranac, New York, October 27th. He had been in failing health for some time, but the sudden ending was quite a shock to his friends.

"John Cotchett was a new member of the Old Guard (he joined in 1926), but he was well known and popular and his many friends will greatly miss him and we will mourn his loss.

"The Old Guard are indebted to Arthur H. Deveney, who very thoughtfully wired when he heard of his sudden death. A check for \$250 was promptly sent Mrs. Cotchett and President Dean will, in due time, look after the memorial.

"We recently had a letter from George Beers saying he and his sisters were ready to place a memorial to their father. Mr. Beers was deeply interested in the memorial feature and it is befitting that his memory should be so honored.

"On behalf of the whole association we extend to Major Bond our sincere sympathy in his recent sorrow. Mrs. Bond passed away very suddenly last September."



National Warm Air Heating and Ventilating Association, Mid-year meeting, Urbana, Illinois, November 30 and December 1, 1927. Urbana-Lincoln Hotel headquarters. Allen W. Williams, 174 East Long Avenue, Columbus, Ohio, Secretary.

Western Warm Air Furnace & Supply Association, Sherman Hotel, Chicago, December 2nd and 3rd, 1927. Assistant Secretary, Oma B. Hussie, 3624 La Fayette Avenue, Omaha, Nebraska.

Kentucky Hardware & Implement Association, Seelbach Hotel, Louisville, Kentucky, January 17 to 20, 1927. Secretary-treasurer, J. M. Stone, 200 Republic Building, Louisville, Kentucky.

Michigan Sheet Metal & Roofing Contractors' Association, Kalamazoo, Michigan, March 5, 6, 7, 8, 1928. Secretary, Frank E. Ederle, 1121 Franklin Street, Grand Rapids, Michigan.

National Association of Sheet Metal Contractors of the United States, Hotel Statler, Cleveland, Ohio, May 22nd to 25th, 1928. Secretary, W. C. Markle, 336 Fourth Avenue, Pittsburgh, Pennsylvania.

THE SATURDAY EVENING POST Jung 22, 1927

PROVED—by This Exacting Test that Crowds Years into Days

Accelerated Corrosion Test
10% Hydrochloric Acid—5 weeks Test

Unaccelerated Corrosion Test
10% Hydrochloric Acid—1 year Test

There is a trademark of Toncan Iron on every sheet of metal. It is stamped on the inside back cover of The Saturday Evening Post every four weeks. It is a guarantee of quality and long life. It is a guarantee of the highest quality of the metal.

Toncan Copper Mo-lyb-den-um Iron demonstrates its superior resistance to corrosive attack

When long and severe service is required, the architect and the sheet metal contractor are using Toncan for all sheet metal work on roofs and buildings. To insure a long and profitable life for their products, makers of stoves, refrigerators, washing machines and other household appliances are using Toncan for essential surfaces, even linings and other concealed metal parts.

If you are purchasing equipment for your home, be guided by the Toncan label. If you are a manufacturer of metal products, let us

show you how Toncan Iron will improve them. Write for the interesting Toncan book, "The Path to Prosperity."

Central Alloy Steel Corporation
Massillon, Ohio

World's Largest and Most Highly Specialized Alloy Steel Producers

TONCAN
COPPER
Mo-lyb-den-um
IRON

This
Trademark
on
Sheet Metal
is a
Guarantee
of Quality
and
Long Life

So the public is informed through advertising in The Saturday Evening Post. Use Toncan Copper Mo-lyb-den-um Iron and increase your reputation, sales and profits.

EVERY galvanized sheet of Toncan Copper Mo-lyb-den-um Iron we make is stamped with the Toncan trademark. This is done for your protection and to give you the prestige that the use of Toncan conveys to your customers. Toncan advertisements, appearing on the page facing the inside back cover of The Saturday Evening Post every four weeks, are making Toncan more profit-

able for dealers. They are creating a ready acceptance in the public mind and confidence in the sheet metal contractor who uses this recognized super-iron.

Whether or not you are now handling Toncan Iron, you should have

our latest book, entitled "Speeding Up Sheet Metal Profits." Tells many ways to increase your business. Send for a copy today.



CENTRAL ALLOY STEEL CORPORATION, MASSILLON, OHIO

Makers of AGATHON ALLOY STEELS

Cleveland
Syracuse

Detroit
Philadelphia

Chicago
Los Angeles

New York
Tulsa

St. Louis
Cincinnati

San Francisco
Seattle

WORLD'S LARGEST AND MOST HIGHLY SPECIALIZED ALLOY STEEL PRODUCERS

Steel Bookings Show Favorable Increase— Prices on Light Products Still Irregular

Pig Iron Prices Are Steady—Large Copper Export Supports Market

EXPANDING order books of many steel producers continue to contrast sharply with the difficulties of maintaining a 65 per cent average operating rate. Further heavy rail and pipe business has been placed and the advance of \$1 per ton in bars, shapes and plates has driven in considerable tonnage, but specifications for immediate rolling show little change.

With the larger users of heavy steel covered for the rest of the quarter at 1.75 cents, Pittsburgh, and 1.85 cents, Chicago, carload and larger orders are now being entered at 1.80 cents and 1.90 cents, respectively. Another advance may be promulgated next month, establishing the current increase for the first quarter. Prices on light products, such as sheets and strip, still are irregular.

Pig Iron

Pig iron merchants at Pittsburgh say they have rarely encountered so slack a market. Occasionally they sell single carloads, and, as for some time past, producers close with regular customers for slightly larger tonnages from time to time. In previous times of depressed demand a few inquiries usually furnished something for sellers to work, but at present absolutely nothing is before the trade.

At Chicago, judging by shipments of northern pig iron this month, which show an increase over the similar period in October, the melt is increasing slightly in this district. Feelers are more frequent for first half. The early summer buying movement apparently has taken care of considerable needs for remainder of this year and the attention of a number of buyers is being centered on first half requirements.

Some additional tonnage has been placed for fourth quarter, making fairly heavy bookings for

that period. Spot buying is slightly heavier. About 500 tons was received in a mixed cargo of steel and pig iron by boat from an eastern furnace late last week. This makes upward of 20,000 tons shipped into the Chicago district by boat this season. The price of \$18.50, Chicago furnace, is holding for spot and first quarter buying. Little resistance to this price is being offered.

At Birmingham sales of pig iron are a little larger than the output. Inquiries have been received for the first quarter but no price has been set. The \$16 base price is for this year's delivery.

While two or three round tonnages have been booked recently, a buying movement has not developed. Production is steady.

Copper

A little business was done in copper at 13.50 cents, Connecticut, and good business at 13.80 cents c.i.f. European ports. The domestic market has not been stimulated much by the rise of $\frac{1}{4}$ -cent in the past few weeks, to the highest price in many months.

Shipments of refined metal last month were 127,538 tons, of which nearly 69,000 tons were for domestic use. The total was practically unchanged from September but domestic deliveries fell off several months. Refined stocks were cut more than 2,000 tons to 83,882 tons, the smallest tonnage held by producers this year. Blister stocks were cut slightly to 246,073 tons. In May blister stocks were smaller, when refined stocks were larger, but otherwise blister supplies at the end of October were the lowest in more than a year. The bulk of the blister copper is in process or in transit to refineries.

Zinc

Some business was done in zinc during the past week but the price

went slightly below 5.60 cents, East St. Louis, on prime western. Then it recovered. The ore market, with overproduction and unusually low prices, seems to be primarily responsible for weakness in metal.

However, stocks of metal increased 1,946 tons last month to 36,223 tons. Domestic shipments jumped 2,564 tons last month to 46,602 tons, but output increased more than 2,000 tons and exports fell off a little to 1,637 tons.

Tin

The tin market has been fluctuating in the usual manner. Low prices have encouraged some users to buy ahead and a fair amount of metal has been sold through the winter.

Supplies continue large with output unchanged and use slack. Supplies, however, are not really excessive. In fact they have been larger and even with prices higher, but under different trend conditions.

Lead

Lead prices have been remarkably steady lately. It is partly because the character of the buying has shown producers that users are poorly covered.

Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50, \$36.00; Commercial 45-55, \$33.00; plumbers', \$30.00; all per 100 pounds.

Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$16.00 to \$16.50; old iron axles, \$19.50 to \$20.00; steel springs, \$13.50 to \$14.00; No. 1 wrought iron, \$10.25 to \$10.75; No. 1 cast, \$12.00 to \$12.50, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, $3\frac{1}{2}$ cents; cast aluminum, $13\frac{3}{4}$ cents.



*The Steamer Malolo—
pride of American Ship-
building ingenuity and a
triumph in architecture
of the High Seas.*

Permitting No Compromise with Permanence

FOR this largest of American-built passenger Vessels, thousands of feet of Wheeling Hand-Dipped Conductor Pipe were used in constructing the ventilating system.

With Wheeling Hand-Dipped Conductor Pipe, permanence is obtained both in the Copper-Alloy base and in the heavy coating of pure zinc which thoroughly covers and protects surfaces, edges and seams. *Permanence of installation is assured.*



To endure salt air conditions, no indifferent, unprotected metal could possibly meet the requirements. Wheeling Hand-Dipped Conductor Pipe resists wear and weather as none other with the same strength.

On land or sea—for draining water from the roof of the smallest dwelling or for carrying fresh salt air to every compartment of an ocean going vessel—Wheeling Hand-Dipped Conductor Pipe proves most economical because it permits no compromise with permanence. Specify it for your own and your customer's protection.

Wheeling Corrugating Co.
Wheeling, W. Va.

New York Philadelphia Chicago
Kansas City St. Louis Richmond
Chattanooga Minneapolis

Wheeling

HAND-DIPPED CONDUCTOR PIPE

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly.

METALS

PIG IRON

Chicago Fdy., No. 2	.....\$18 50
Southern Fdy. No. 2	.....22 01
Lake Superior Charcoal	.....27 04
Malleable	.....18 50

FIRST QUALITY BRIGHT TIN PLATES

IC 20x28 112 sheets	.....\$25 10
IX 20x28 112 sheets	.....29 60
IXX 20x28 56 sheets	.....16 20
IXXX 20x28 112 sheets	.....17 56
IXXXX 20x28	.....18 95

TERNE PLATES

IC 20x28, 40-lb. 112 sheets	Per Box \$26 00
IX 20x28, 40-lb. 112 sheets	28 50
IC 20x28, 25-lb. 112 sheets	21 75
IX 20x28, 25-lb. 112 sheets	24 25
IC 20x28, 20-lb. 112 sheets	20 00
IV 20x28, 20-lb. 112 sheets	22 50
IC 20x28, 15-lb. 112 sheets	18 50

"ARMCO" INGOT IRON PLATES
No. 8 ga. up to and including
1/2 in.—100 lbs.\$4 55

COKE PLATES

Cokes, 80 lbs., base, 20x28	.....\$13 60
Cokes, 90 lbs., base, 20x28	.....13 80
Cokes, 100 lbs., base, 20x28	.....14 00
Cokes, 107 lbs., base, IC	.....14 30
20x28	.....16 40
Cokes, 155 lbs., base, 56 sheets	.....9 20
Cokes, 175 lbs., base, 56 sheets	.....10 05
Cokes, 195 lbs., base, 56 sheets	.....10 90

BLUE ANNEALED SHEETS
Base 10 ga.per 100 lbs. \$3 50
"Armco" 10 ga.per 100 lbs. 4 00

ONE PASS COIL ROLLED BLACK

No. 18-20	.....per 100 lbs. \$3 75
No. 22	.....per 100 lbs. 3 90
No. 24	.....per 100 lbs. 3 95
No. 26	.....per 100 lbs. 4 05
No. 27	.....per 100 lbs. 4 10
No. 28	.....per 100 lbs. 4 20
No. 29	.....per 100 lbs. 4 35
No. 30	.....per 100 lbs. 4 45

"ARMCO" GALVANIZED
"Armco" 24per 100 lbs. \$6 15

GALVANIZED

No. 16	.....per 100 lbs. \$4 30
No. 18	.....per 100 lbs. 4 45
No. 20	.....per 100 lbs. 4 60
No. 22	.....per 100 lbs. 4 65
No. 24	.....per 100 lbs. 4 80
No. 26	.....per 100 lbs. 5 05
No. 27	.....per 100 lbs. 5 15
No. 28	.....per 100 lbs. 5 30
No. 30	.....per 100 lbs. 5 70

BAR SOLDER

Warranted 50-50	.....per 100 lbs. \$36 00
Commercial 45-55	.....per 100 lbs. 33 00
Plumbers	.....per 100 lbs. 30 00

ZINC

In Slabs	.....\$ 8 50
SHEET ZINC	
Cash Lots (600 lbs.)	.....\$12 00
Sheet Lots	.....12 00

BRASS

Sheets, Chicago base	.....17 1/2 c
Mill base	.....18 c
Tubing, seamless base	.....25 1/2 c
Wire, base	.....18 1/2 c
Rods, base	.....15 1/2 c

COPPER

Sheets, Chicago base	.....23 1/2 c
Mill base	.....25 1/2 c
Tubing, seamless base	.....35 c
Wire, No. 9, B & S Ga.	.....18 1/2 c
Wire, No. 10, B & S Ga.	.....18 1/2 c
Wire, No. 11, B & S Ga.	.....19 1/2 c
Wire, No. 8, B & S Ga. and heavier	.....18 c

LEAD

American Pig	.....\$7 00
Bar	.....8 00

TIN

Pig Tin	.....per 100 lbs. \$62 00
Bar Tin	.....per 100 lbs. 63 00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16	.....6c per lb.
Roll board	.....6 1/2 c per lb.
Mill board 3/32 to 1/2	.....6c per lb.
Corrugated Paper (250 sq. ft. to roll)	.....\$6 00 per roll

BRUSHES

Hot Air Pipe Cleaning Bristle, with handle	each \$0 85
Flue Cleaning Steel only	each 1 25

BURRS

Copper Burrs only40-5%
-------------------	------------

CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 40
American Seal, 10-lb. cans, net	80
American Seal, 25-lb. cans, net	2 00
Pecora	.....per 100 lbs. 7 51

CHIMNEY TOPS

Adams' Revolving	Wt. Doz.	Price Doz.
4 in.	21 lbs.	\$11 00
6 in.	24 lbs.	11 50
7 in.	30 lbs.	13 50
8 in.	33 lbs.	15 00
9 in.	51 lbs.	16 50
10 in.	66 lbs.	18 00
12 in.	66 lbs.	22 00
14 in.	110 lbs.	35 00

CLINKER TONGS

Front Rank, each	.....\$0 75
Per doz.	.....8 40

CLIPS

Damper Adams No.-Rivet Steel, with tail pieces, per gross	.....\$9 00
Tail pieces, per gross	.....2 50

COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier	.....per lb. 40c
2 1/2 lb.	.....per lb. 45c
2 lb.	.....per lb. 48c
1 1/2 lb.	.....per lb. 55c
1 lb.	.....per lb. 60c

CORNICE BRAKES

Chicago Steel Bending Nos. 1 to 6BNet
------------------------------------	----------

CUT-OFFS

Gal., plain, round or cor. rd.	.....30%
26 gauge	.....30%
28 gauge	.....35%

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.	.....\$1 75
8 inch, each 25c, doz.	.....2 40
9 inch, each 30c, doz.	.....2 75
10 inch, each 32c, doz.	.....3 00

Smoke Pipe	
7 inch, each	.....\$0 35
8 inch, each	.....40
9 inch, each	.....50
10 inch, each	.....60
12 inch, each	.....90

ADAMS No. 1 CHECK

Check and Collar Complete	.....2 00
9 inch, each	.....2 25

End Check Only	
8 inch, each	.....1 60
9 inch, each	.....1 85

Collar Only	
8 inch, each	.....50
9 inch, each	.....65

No. 2 CHECK

8 inch, each	.....1 00
9 inch, each	.....1 00

10% Disc. on Adams No. 1 and No. 2 Check	
Diamond Smoke Pipe	
7 inch, doz.	.....\$ 2 00
8 inch, doz.	.....3 20
9 inch, doz.	.....4 80
10 inch, doz.	.....6 00

Adams' Sheet Metal

7 inch, doz.	.....\$ 1 60
8 inch, doz.	.....2 20
9 inch, doz.	.....2 60
10 inch, doz.	.....2 80
12 inch, doz.	.....3 50
14 inch, doz.	.....5 00

DIGGERS

Post Hole	
Iwan's Split Handle (Eureka)	.....per doz. \$14 00
4-ft. Handle	.....per doz. 36 00
7-ft. Handle	.....per doz. 36 00
Iwan's Hercules pattern, per doz.	.....14 90

EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%	.....60%
Zinc, "Barnes"	.....60%

ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp.	.....60%
28 Gauge	.....45%
26 Gauge	.....45%
24 Gauge	.....15%

Galv. & Terne Steel	
Plain Rd. and Rd. Corr.	.....60%
28 Ga.	.....45%
26 Ga.	.....45%
24 Ga.	.....15%

Square Corrugated	
No. 28 Gauge	.....50%
26 Gauge	.....35%

Portico Elbows	
Standard Gauge Conductor Pipe, plain or corrugated.	.....70 & 5%
Not nested	.....70 & 5%
Nested solid	.....70 & 5%

Sq. Corr., A. & B. & Octagon	
28 Ga.	.....50%
26 Ga.	.....35%

Portico	
1", 1 1/4", 1 1/2"	.....45%

Copper	
16 oz., all designs	.....45%

Zinc—	
All styles	.....60%

ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue	.....Dox
"Milcor" No. 28 Gauge	.....\$1 25
5-inch	.....1 35
6-inch	.....1 35
7-inch	.....1 75

Special Corrugated

6-inch	.....\$1 00
7-inch	.....1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge, Uniform Blue	.....\$1 75
5-inch	.....1 85
6-inch	.....2 15
7-inch	.....2 15

WOOD FACES—50% off list.

626-6-12 1/2% (100 rods)	.....\$28 68
1948-6-14 1/2% (100 rods)	.....43 62

FILES AND RASPS

Heller's (American)	.....60-10%
American	.....60-10%
Arcade	.....50%
Black Diamond	.....50%
Eagle	.....50%
Great Western	.....50%
Kearney & Foot	.....50%
McClellan	.....50%
Nicholson	.....50%
Simonds	.....60%

FIRE POTS

Clayton & Lambert's	
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas	.....52%
West of above boundary	.....48%

Geo. W. Diener Mfg. Co.

No. 02 Gasoline Torch, 1 qt.	.....\$ 5 55
No. 0250, Kerosene, or Gasoline Torch, 1 qt.	.....7 50
No. 10 Tinner's Furn. Square tank, 1 gal.	.....12 60
No. 15 Tinner's Furn. Round tank, 1 gal.	.....12 00
No. 21 Gas Soldering Furnace	.....3 60
No. 110 Automatic Gas Soldering Furnace	.....10 50

Double Blast Mfg. Co.	
Gasoline, Nos. 25 and 36	.....60%

Quick Meal Stove Co.	
Vesuvius, F. O. B. St. Louis	.....30%
(Extra Disc. for large quantities.)	

GALVANIZED WARE

Pails (Galv. after made), 10-qt.	.....\$2 12
Tubs (Galv. after made), No. 1	.....6 00
No. 2	.....6 35

GLASS

Single Strength, A, 25-in. brackets	.....87%
Single Strength, A, 34 to 40-in. bracket	.....86%
Single Strength, A, all other brackets	.....89%
Double Strength, A, all sizes	.....86%

HANGERS

Conductor Pipe	
Milcor Perfection Wire	.....25%
Milcor Triplex Wire	.....10%
Eaves Trough	
Milcor Steel (galv. after forming) List	.....plus 12 1/2%
Milcor Selflock E. T. Wire, List	.....plus 50%

HOOKS

Box	
V. & B. No. 1, each	.....\$0 26
Conductor	
"Direct Drive" Wrought Iron for wood or brick	.....15%
Hay	
V. & B. No. 1, each	.....\$0 26

HUMIDIFIER

"Front-Rank" Automatic	
In single lots	.....50%
In lots of 10 or more	.....50-5%
In lots of 25 or more	.....50-10%
Vapor pans, etc., each	.....50%

LIFTERS

Stove Cover	
Coppered	.....per gro. \$6 00
Alaska	.....per gro. 4 75

MAILLETS

Tinners Hickoryper doz. \$2 25
-----------------	----------------------

MITRES

Galvanized steel mitres,	
24 Ga.	.....70
26 Ga.	.....60-20

NAILS

Cut Steel	.....\$1 35
Cut Iron	.....4 35

Wire	
Common	.....3 95
Cement Coated	.....2 95

(Continued on Page 132)

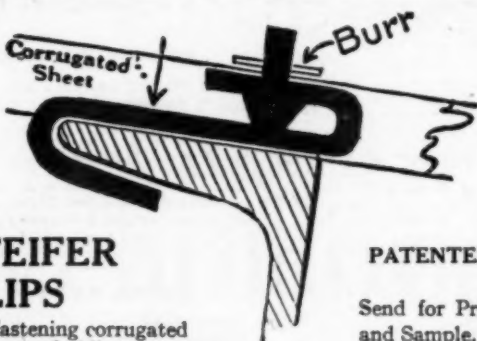
The W. J. BURTON CO.

Detroit, Michigan

Forty-Four Years
Serving the
Sheet Metal Contractor

with

**SHEET METAL PRODUCTS
FOR BUILDINGS**



PFEIFER CLIPS

For fastening corrugated
roofing and siding.

PATENTED

Send for Price
and Sample.

WM. PFEIFER

473 Greenwich St.
New York, N. Y.

A New and Better Way of Cutting Corrugated Sheets

RYERSON TANGENT SHEAR

Cuts sheets up to 20 gauge—
smooth and clean—without
distortion. A light, handy tool
that can be carried on the job.
Write for complete information.
Ask for bulletin A24101.



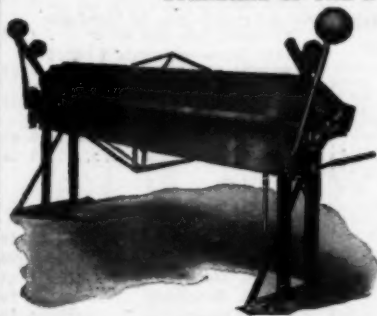
JOSEPH T. RYERSON & SON INC.

10th & Rockwell Sts.,

CHICAGO ILL.,

CHICAGO STEEL CORNICE BRAKES

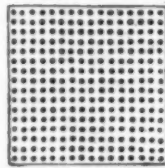
STANDARD OF THE WORLD



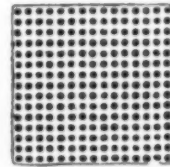
THE BEST BRAKE
FOR ALL PUR-
POSES: Most Dur-
able, Easiest Oper-
ated, Low in Price;
Made in All Lengths
and to Bend All
Gauges of Metal.
Over 23,000 in use.

WRITE FOR
PARTICULARS

DREIS & KRUMP MFG. CO., 7404 Loomis Street, CHICAGO



No. 1



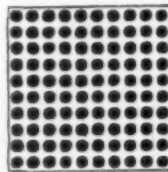
No. 2

IF IT'S PERFORATED TIN YOU NEED

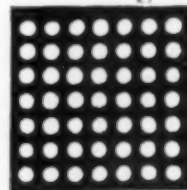
—“WE HAVE IT”—

THE J. M. & L. A.
OSBORNE
CLEVELAND

“Everything Used in Sheet Metal Work”



No. 5



No. 6

ARMCO INGOT IRON

The Purest Iron Made

ARCHITECTS and Contractors are
well acquainted with this long-
lasting sheet metal. Our stock includes
every size and gauge required by the
trade.

“Since 1866” we have been serving and
satisfying customers in all parts of the
country.

Everything in Sheet Metal

Coke and Charcoal
Tin Plate
Roofing Plate
Conductor Pipe
Gutter
Tinner's Supplies

Brass—Copper
Nickel
(in all forms)
“Mond-70”
Babbitt
Solder



MERCHANT & EVANS CO.
PHILADELPHIA.

WAREHOUSES

NEW YORK CLEVELAND

KANSAS CITY DETROIT

CHICAGO



ADVERTISERS' INDEX

The dash (—) indicates that the advertisement runs on a regular schedule but does not appear in this issue.

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NETTING, POULTRY		ROOFING	
Galvanized before weav-	—	Best grade, slate surf. pre-	Per Square
ing	57½-59	pared	\$ 3 30
Galvanized after weav-	52½-55	Best talc surfaced	3 65
		Medium talc surfaced	3 00
		Light talc surfaced	1 30
		Red Rosin Sheeting, per ton	57 00
PASTE		SCREWS	
Asbestos Dry Paste:		Sheet Metal	
200-lb. barrel	\$14 00	7, ½x¾, per gross	\$0 52
100-lb. barrel	8 75	No. 10, ¾x1½, per gross	45
35-lb. pail	3 50	No. 14, ¾x¾, per gross	89
10-lb. bag	1 10		
5-lb. bag	60		
2½-lb. cartons	35		
PIPE		SHEARS, TINNERS' & MACHINISTS'	
Conductor		Viking	\$22 00
Cor. Rd., Plain Rd., or Sq.		Lennox Throatless	
Galvanized		No. 18	35%
Crated and nested (all		Shear blades	19%
gauges)	75-2¼%	(f. o. b. Marshalltown, Iowa)	
Crated and not nested			
(all gauges)	70-15%		
FURNACE PIPE		SHIELDS, REGISTER	
Double Wall Pipe and		No. 1 "Gem" floor	\$12 00 doz.
Fittings	40-10%	No. 2 "Gem" wall	6 00 doz.
Single Wall Pipe, Round			
Galvanized Pipe	40-10%		
Galvanized and Tin Fit-			
tings	40-10%		
LEAD		SHOES	
Per 100 lbs.	\$12 50	Galv. 28 Gauge, Plain or cor-	60%
		rugated round flat crimp	45%
		26 gauge round flat crimp	45%
		24 gauge round flat crimp	45%
STOVE PIPE		SNIPS, TINNERS'	
"Milcor" "Titelock" Uniform Blue		Clover Leaf	40 & 10%
Stove		National	40 & 10%
28 gauge, 5 inch U. C.	11 50	Star	50%
28 gauge, 6 inch U. C.	12 35	Milcor	Net
28 gauge, 7 inch U. C.	14 25		
30 gauge, 5 inch U. C.	10 50		
30 gauge, 6 inch U. C.	11 25		
30 gauge, 7 inch U. C.	13 25		
T-Joint Made up		SQUARES	
6-inch, 28 ga.	per doz. \$ 5 00	Steel and Iron	Net
		(Add for bluing, \$3 per doz. net.)	
ALL ZINC		Mitre	Net
No. 11, all styles	60%	Try	Net
		Try and Bevel	Net
		Try and Mitre	Net
		Fox's	per doz. \$6 00
		Winterbottom's	10%
POKERS, STOVE		STOPPERS, FLUE	
Wrt Steel, str't or bent,	per doz. \$0 75	Common	per doz. \$1 10
Nickel Plated, coll handles,	per doz. 1 10	Gem. No. 1	per doz. 1 10
		Gem. flat, No. 3	per doz. 1 00
POKERS, FURNACE		VENTILATORS	
Each	\$0 50	Standard	30 to 40%
PULLEYS		WIRE	
Furnace Tackle	per doz. \$0 60	Plain annealed wire, No. 8	per 100 lbs. \$3 05
Furnace Screw (enameled)	per doz. 6 00	Galvanized barb wire, per	100 lbs. 3 90
		Wire Cloth—black painted,	12-mesh, per 100 sq. ft. 1 65
		Cattle Wire—galvaniz'd catch	weight spool, per 100 lbs. 3 65
		Galvanized Hog Wire, 30 rod	spool, per spool. 3 18
		Galvanized Plain Wire, No.	3, per 100 lbs. 3 40
		Stove Pipe, per stone	1 10
VENTILATING REGISTER		WRINGERS	
Per gross	9 00	No. 790, Guarantee	each \$5 10
Small, per pair	30	No. 770, Bicycle	each 4 70
Large, per pair	50	No. 470, Domestic	each 4 35
		No. 110, Brighton	each 3 70
		No. 750, Guarantee	each 5 10
		No. 740, Bicycle	each 4 70
		No. 22, Pioneer	each 3 40
		No. 2, Superb	each 2 85
PUTTY			
Commercial Putty, 100-lb.			
Kits	\$3 40		
QUADRANTS			
Malleable Iron Damper	10%		
REDUCERS—Oval Stove Pipe			
Per Doz.			
7-6, 1 doz. in carton	\$2 25		
REGISTERS AND BORDERS			
Baseboard, Floor and Wall.			
Cast Iron	20%		
Steel and Semi-Steel	40%		
Baseboard	40%		
Wall	40%		
Adjustable Ceiling Ventilators	40%		
REGISTER FACES—Cast and Steel			
Japanned, Bronzed and			
Plated, 4x6 to 14x14	40%		
Large Register Faces—Cast			
14x14 to 32x42	60%		
Large Register Faces—Steel			
14x14 to 32x42	60%		
RIDGE ROLL			
Galv., Plain Ridge Roll			
b'did	75-10-5%		
Galv., Plain Ridge Roll			
crated	75-10%		
Globe Finials for Ridge			
Roll	50%		

Announcing

A Series
of
Articles
on

Farm Ventilation

by

Prof. A. J. Mack

Department of Mechanical Engineering

KANSAS STATE
AGRICULTURAL COLLEGE

Watch for the
first article to
appear soon

AMERICAN ARTISAN



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We make a complete line of shears, punches and bending rolls, all sizes for hand or belt drive. Write for Catalog "S."

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Cambridge City, Ind.

Whitney Lever Punches

Widest known—Most universally used



Skylight Punch

NEW SKYLIGHT
CLOSE CORNER
FLANGE PUNCH



Skylight Punch

Every Sheet Metal Worker Needs One.

Weights Only 10 Lbs.

1-2 Inch Opening Above Die Top.

EASIEST OPERATED
QUICKEST CHANGED
FREQUENTLY PAY FOR THEMSELVES
ON FIRST JOB

Over 40,000 In Use



Channel Iron Punch

MADE IN 8 SIZES AND TYPES

OTHERS FOLLOWING



No. 1 Punch

ASK YOUR JOBBER

or

Write us, for circulars and prices.



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EARLE'S VENTILATOR



IMPROVED
REVOLVING

It runs in a self-lubricating bearing that is not affected by heat or cold. It is noiseless and produces an upward current of air. No down draft. It will satisfy and give you a good profit.

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WAREROOMS AND FACTORY: 100 TO 114 BREAD STREET
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Manufacturers of "Quaker City" line of Miter, Ends, Caps and Outlets

The NEW IMPROVED "STANDARD" Rotable Ventilator



Patents pending

This favorite cone-shaped ventilator is now improved in several important points.

The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

The bronze Guide Bushings are now made of non-corrosive bronze which minimizes friction and any tendency to screech when body is rotating.

There are other new features. Write today for new catalog and price list.

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LEWISBURG, PA.

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Cleveland, Ohio

Lamson & Sessions Co.,
Cleveland, Ohio
Ryerson & Son, Inc.,
Jos. T.,
Chicago, Ill.

Brakes—Bending.
Dreis & Krump Mfg. Co.,
Chicago, Ill.
Ryerson & Son, Inc.,
Jos. T.,
Chicago, Ill.

Brakes—Cornice.
Dreis & Krump Mfg. Co.,
Chicago, Ill.

Brass and Copper.
Copper & Brass Research As-
sociation,
New York
Merchant & Evans Co.,
Philadelphia, Pa.

Cane—Garbage.
Osborn Co., The J. M. & L. A.,
Cleveland, Ohio

Castings—Malleable.
Fanner Mfg. Co.,
Cleveland, Ohio

Ceilings—Metal.
Burton Co., The W. J.,
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Wheeling, W. Va.

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Check Drafts.
Teela Sheet Metal Co.,
Oshkosh, Wis.

Clinker Tongs.
L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Clips—Roofing.
Wm. Pfeiffer,
New York, N. Y.
Coal Chutes.
Majestic Co., The,
Huntington, Ind.

Copper.
Copper & Brass Research As-
sociation,
New York

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Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Dampers—Quadrants—Accessories.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

L. J. Mueller Furnace Co.,
Milwaukee, Wis.
Parker-Kalon Corp.,
New York, N. Y.

Diffuser—Air Duct.
Aeolus-Dickinson Co.,
Chicago, Ill.

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Milwaukee, Wis.

Doors—Metal.
Lupton's Sons Co., David,
Philadelphia, Pa.

Drive Screws—Hardened Metallic.
Parker-Kalon Corp.,
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Eaves Trough.
Barnes Zinc Products Co.,
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Philadelphia, Pa.
Burton Co., The W. J.,
Detroit, Mich.

Berger Co., L. D.,
Philadelphia, Pa.
Lupton's Sons Co., David,
Philadelphia, Pa.

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New Jersey Zinc Sales Co., The,
New York, N. Y.

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Wheeling, W. Va.

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Barnes Zinc Products Co.,
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Cincinnati, Ohio
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Aurora, Ill.
Lupton's Sons Co., David,
Philadelphia, Pa.

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Engineering—Fan Blast
Warm Air Heating
Herbert H. Davis Co., Inc.,
Chicago, Ill.

Wood Faces—Cold Air
Auer Register Co.,
Cleveland, Ohio

Eaglesheid Ventilator Co.,
Indianapolis, Ind.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

United States Register Co.,
Battle Creek, Mich.

Fences.
American Steel & Wire Co.,
Chicago, Ill.

Fittings—Conductor.
Barnes Zinc Products Co.,
Chicago, Ill.

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Five Thimbles.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Furnace Cement—Asbestos.
Armstrong Co., The,
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Cincinnati, Ohio
Connors Paint Mfg. Co., Wm.,
Troy, N. Y.

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Mil., Ch'go, La Crosse, Kan. City
Pecora Paint Co.,
Philadelphia, Pa.

Furnace Cement—Liquid.
Technical Products Co.,
Pittsburgh, Pa.

Furnace Cleaners—Suction.
Brillion Furnace Co.,
Brillion, Wis.
Sturtevant Co., B. F.,
Boston, Mass.

Furnace Fans.
A. H. Robinson Company,
Massillon, Ohio

Robinson Furnace Co.,
Chicago
Sturtevant Co., B. F.,
Boston, Mass.
Warm Air Furnace Fan Co., The,
Cleveland, Ohio

Furnace Rings.
Milwaukee Corrugating Co.,
Milwaukee, Wis.

Walworth Run Fdy. Co.,
Cleveland, Ohio

Furnaces—Gas.
Calkins & Pearce, Columbus, Ohio

Furnaces—Warm Air.
Agricola Furnace Co.,
Gadsden, Ala.

American Furnace Co.,
St. Louis, Mo.
American Foundry & Furnace
Co.,
Bloomington, Ill.

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Brillion, Wis.

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Monroe, Mich.

Forest City Fdy. & Mfg. Co.,
Cleveland, Ohio

Henry Furnace & Fdy. Co.,
Cleveland, Ohio

Hess-Snyder Co.,
Massillon, Ohio
Homer Furnace Co.,
Coldwater, Mich.

International Heater Co.,
Utica, N. Y.

Kelth Furnace Co.,
Des Moines, Ia.

Lamneck Co., W. E.,
Columbus, Ohio

Langenberg Mfg. Co.,
St. Louis, Mo.

Lennox Furnace Co.,
Marshalltown, Ia.;
Syracuse, N. Y.

Majestic Co., The,
Huntington, Ind.
May-Flebeiger Furnace Co.,
Newark, Ohio

Meyer Furnace Co., The,
Peoria, Ill.

Monitor Furnace Co.,
Cincinnati, Ohio

Mt. Vernon Furnace & Mfg. Co.,
Mt. Vernon, Ill.

Mueller Furnace Co., L. J.,
Milwaukee, Wis.

Richardson & Boynton Co.,
New York, N. Y.

Robinson Furnace Co., A. H.,
Massillon, Ohio

Robinson Furnace Co.,
Chicago, Ill.

Rudy Furnace Co.,
Dowagiac, Mich.

Rybolt Heater Co.,
Ashland, Ohio
Standard Furnace & Supply Co.,
St. Louis, Mo.

Success Heater Mfg. Co.,
Des Moines, Iowa

Thomas & Armstrong Co.,
London, Ohio

Thatcher Co.,
Chicago, Ill.

XXth Century Heating & Ventila-
ting Co.,
Akron, Ohio

Utica Heater Co.,
Utica, N. Y.

Waterman-Waterbury Co.,
Minneapolis, Minn.

Western Steel Products Co.,
Duluth, Minn.

Wise Furnace Co.,
Akron, Ohio

Garages—Metal.
The Thomas & Armstrong Co.,
London, Ohio

Gas (Acetylene) Dissolved.
Prest-O-Lite Co., Inc.,
New York, N. Y.

Gas (Nitrogen).
Linde Air Products Co.,
New York, N. Y.

Gas (Oxygen).
Linde Air Products Co.,
New York, N. Y.

Glass—Wire.
Lupton's Sons Co., David,
Philadelphia, Pa.

Grilles.
Auer Register Co.,
Cleveland, Ohio

Harrington & King Perforating
Co.,
Chicago, Ill.

Hart & Cooley Co.,
New Britain, Conn.

Independent Reg. Co.,
Cleveland, Ohio

Tuttle & Bailey Mfg. Co.,
Chicago, Ill.

United States Register Co.,
Battle Creek, Mich.

Grilles—Store Front.
Tuttle & Bailey Mfg. Co.,
Chicago, Ill.

Guards—Machine and Belt.
Harrington & King Perforating
Co.,
Chicago, Ill.

Handles—Roller.
Berger Bros. Co.,
Philadelphia, Pa.

Handles—Soldering Iron.
Hyro Mfg. Co.,
New York, N. Y.

Hangers—Eaves Trough.
Berger Co., L. D.,
Philadelphia, Pa.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Heaters—Cabinet.
Majestic Co., The,
Huntington, Ind.

Mueller Furnace Co., L. J.,
Milwaukee, Wis.

Waterman-Waterbury Co.,
Minneapolis, Minn.

Heaters—Gas.
Calkins & Pearce, Columbus, Ohio

Heaters—School Room.
Floral City Heater Co.,
Monroe, Mich.

International Heater Co.,
Utica, New York

Meyer Furnace Co., The,
Peoria, Ill.

L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Standard Furnace & Supply Co.,
Omaha, Neb.

Waterman-Waterbury Co.,
Minneapolis, Minn.

Hooks—Conductor.
Berger Co., L. D.,
Philadelphia, Pa.

Hotels.
Auditorium Hotel,
Cleveland

Fort Shelby Hotel,
Detroit, Mich.

Humidifiers.
Automatic Humidifier Co.,
Cedar Falls, Iowa

L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Robinson Furnace Co.,
Chicago, Ill.

Lath—Expanded Metal.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Machines—Crimping.
Bertsch & Co.,
Cambridge City, Ind.

Machinery—Culvert.
Bertsch & Co.,
Cambridge City, Ind.

Machines—Tinsmiths.
Bertsch & Co.,
Cambridge City, Ind.

Burton Co., The W. J.,
Detroit, Mich.

Chicago Elbow Machine Co.,
Oak Park, Ill.

Dreis & Krump Mfg. Co.,
Chicago, Ill.

Marshalltown Mfg. Co.,
Marshalltown, Iowa

Osborn Co., The J. M. & L. A.,
Cleveland, Ohio

Peck, Stow & Wilcox Co.,
Southington, Conn.

Ryerson & Son, Inc.,
Jos. T.,
Chicago, Ill.

Unishear Co., Inc.,
New York, N. Y.

Whitney Mfg. Co., W. A.,
Rockford, Ill.

Whitney Metal Tool Co.,
Rockford, Ill.

Mandrels.
Hyro Mfg. Co.,
New York, N. Y.

Metals—Perforated.
Harrington & King Perforating
Co.,
Chicago, Ill.

Miters.
Friedley-Voshardt Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Miters—Eaves Trough.
Barnes Zinc Products Co.,
Chicago, Ill.

Lupton's Sons Co., David,
Philadelphia, Pa.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Nails—Hardened Masonry.
Parker-Kalon Corp.,
New York, N. Y.

Nails—Wire.
American Steel & Wire Co.,
Chicago, Ill.

Nitrogen (Gas).
Linde Air Products Co.,
New York, N. Y.

Ornaments—Sheet Metal.
Friedley-Voshardt Co.,
Chicago, Ill.

Geroch Bros. Mfg. Co.,
St. Louis, Mo.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Oxygen (Gas).
Linde Air Products Co.,
New York, N. Y.

Paint.
Connors Paint Mfg. Co., Wm.,
Troy, N. Y.

Pecora Paint Co.,
Philadelphia, Pa.

Patterns—Furnace & Stove.
Cleveland Castings Pattern Co.,
Cleveland, Ohio

Quincy Pattern Co.,
Quincy, Ill.

Vedder Pattern Works,
Troy, N. Y.

Pipe and Fittings—Furnace.
Burton Co., The W. J.,
Detroit, Mich.

Henry Furnace & Fdy. Co.,
Cleveland, Ohio

Lamneck Co., W. E.,
Columbus, Ohio

Meyer & Bro. Co., F.,
Peoria, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Mueller Furnace Co., L. J.,
Milwaukee, Wis.

Osborn Co., The J. M. & L. A.,
Cleveland, Ohio

Robinson Furnace Co.,
Chicago, Ill.

Standard Furnace & Supply Co.,
Omaha, Neb.

Pipe and Fittings—Stove.
Meyer & Bro. Co., F., Peoria, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Pipe—Conductor.
Barnes Zinc Products Co.,
Chicago, Ill.

Berger Bros. Co.,
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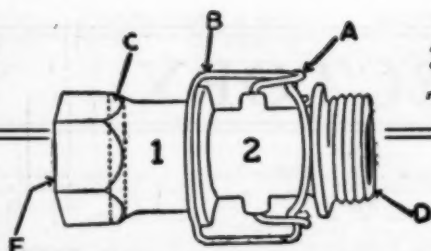
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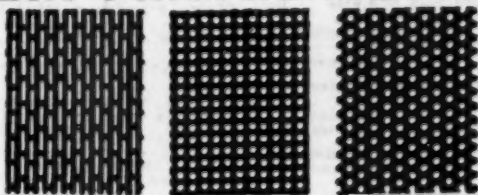
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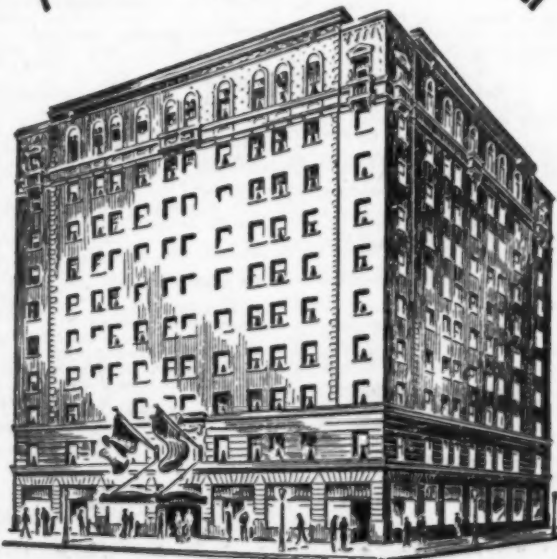
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Burton Co.,
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Roofing—Zinc.
New Jersey Zinc Sales Co.,
The, New York, N. Y.

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Hart & Cooley Co.,
New Britain, Conn.
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Chicago

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WANTS AND SALES

Yearly subscribers to the **AMERICAN ARTISAN** may insert advertisements of not more than fifty words in our Want and Sales Columns **WITHOUT CHARGE**.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired. This privilege is not extended to manufacturers or jobbers—or those making a business of buying and selling used machines, employment agencies and brokers.

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Lightning Rods—Dealers who are selling Lightning Protection will make money by writing to us for our latest Factory to Dealer Prices. We employ no salesmen and save you all overhead charges. Our Pure Copper Cable and Fittings are endorsed by the National Board of Fire Underwriters and hundreds of dealers. Write today for samples and prices. L. K. Diddle Company, Marshfield, Wisc.

Wanted—A heating and ventilating man who has \$2,500.00 or more to buy a working interest in a growing concern doing a yearly business of approximately \$50,000.00 which can be increased to \$75,000.00 or \$100,000.00 by connecting up with a capable man who can handle men and estimate plans and act as general shop superintendent. Located in a city in southern Michigan. A young man or middle-aged man preferred. One who is energetic and will take a personal interest in the business. For further particulars address P-459, **AMERICAN ARTISAN**, 620 So. Michigan Ave., Chicago, Ill.

For Sale—Sheet metal shop in southern California 15 miles south of Long Beach. Only shop in Newport, Balboa and Corona Del Mar. a combined population of 3,500 in winter and over 7,000 in summer. Lots of boat tanks and sheet metal work on boats. Plenty of work ahead. \$750.00 takes Ford truck and tools. Nice building and best location. Rent \$15.00 per month. Fastest growing community on Pacific Coast. Must leave for Arizona at once on account of arthritis. Would consider a trade on small acreage in Arizona. Address Newport Sheet Metal Works, Newport Beach, California. Q459

Hot Wave Heat Distributors. Patented attachable radiation for old or new steel furnaces. Has deflectors that force the air stream over the dome. Made of sheet metal with angle iron frames. Want capital for manufacturing and selling. Interested parties write for booklet. Address E. R. Taylor, Malcom, Iowa. E-459

Want to buy hardware fixtures, shop equipment, job lots of bolts, rivets, cap screws, nuts, washers, machinists' tool supplies, machinery, mixed balls and nail screws. Address O-459, **AMERICAN ARTISAN**, 620 So. Michigan Ave., Chicago.

For Sale—Tin Shop, radiator repairing and furnaces; the only shop in town; in dairy district located in northern Illinois town of 2,000. Address F-459, **AMERICAN ARTISAN**, 620 South Michigan avenue, Chicago, Illinois.

Wanted to Buy—Sheet metal shop in suburbs or within 50 miles of Chicago. State what tools you have and price. Address R-458, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

SITUATION WANTED

Position Wanted—Clerk or manager of hardware store; 10 years as successful manager in same store; have had experience in tin and plumbing work; I am now employed as traveling salesman; only permanent position considered; age 44 years; good reference; married and reliable hardware man. Address W-458, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

Situation Wanted—I would like to represent some furnace or sheet metal company in northern Illinois or Wisconsin (preferably); I am a first class heating man and estimator; want nothing but year around job. State salary and commission. Address J-459, **AMERICAN ARTISAN**, 620 South Michigan avenue, Chicago, Illinois.

Situation Wanted—Furnace salesman who has been with only two firms in the past fifteen years wants to make a change for 1928. Can plan or install a job and sell at retail or wholesale. Will furnish references as to character and ability. If you need such a man please write R-459, **AMERICAN ARTISAN**, 620 So. Michigan Ave., Chicago, Ill.

First class tinner and furnace man, also pumps and wind mills, desires change first of year; 15 years' experience; married; prefer northern Illinois; only steady employment considered; available within a month; can give references. Address S-458, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

Situation Wanted—By plumber and fitter. I have also installed hot air heating plants in the past several years; know my trade and am fully capable of taking charge or shop or men; middle aged and married, steady, with no bad habits; my experience has been large and varied and am no floater; come after November 10th; Central West States preferred. Address W. C. Fisher, Saco, Montana. Y-458

Salesmanager with several years' experience in the stove and furnace field is available for a proposition for 1928. Has had both road and inside sales experience with one of the largest furnace manufacturers prior to becoming sales manager in present connection. Address L-459, **AMERICAN ARTISAN**, 620 South Michigan avenue, Chicago, Illinois.

Situation wanted by a practical all around tinner. Can work outside and inside, lay out my own work, do furnace work and ventilating; have been at the trade for the past 25 years; prefer Michigan or Ohio. Address P. S. McGuffin, Inkster, Michigan. K-459

Situation Wanted—Hardware sheet metal man and plumber open for steady job; good references; 13 years' experience; will go any place. Address X-458, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

Situation Wanted—A sheet metal worker and furnace man desires steady employment; experienced in pipe work; married. State wages and full particulars. Address H-459, **AMERICAN ARTISAN**, 620 South Michigan avenue, Chicago, Illinois.

Competent, all around, sober plumber and tinner wants position. Can handle any job in above lines and can take complete charge. Address D-459, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago, Ill.

Position Wanted—Furnace salesman or director of sales. Can furnish a proven sales record and ability to get orders. Address T-458, **AMERICAN ARTISAN**, 620 S. Michigan Ave., Chicago.

HELP WANTED.

Wanted—Three good furnace salesmen to represent us in Iowa. Must be capable of planning and estimating Heating Systems according to the Standard Code and working territory close and hard. Young men acquainted with Iowa trade preferred. Address Keith Furnace Company, Des Moines, Iowa. Q458

Wanted—Competent all around sober plumber and tinner that can handle any job in the above line and take complete charge. Address W. E. Smythe, 1102 Convention St., Baton Rouge, La. Y459

MISCELLANEOUS

For Sale—National Cash Register, used only a short time; registers from 1 cent to \$999.99, totals the cash, charges received on account and number of customers; imitation mahogany case on pedestal. Will sacrifice for \$200 for cash sale. Address B. F. Jones, Massillon, Ohio. G-459

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HUBERT E. PECK
Patent Attorney

Barrister Bldg., WASHINGTON, D. C.

OPPORTUNITY FOR EXPERIENCED HEATING SALESMAN

The addition to our extensive line of heating equipment, of gas-fired furnaces and boilers, creates an opening in our sales force for one or two good salesmen, with traveling experience, and preferably some knowledge of the heating business. We invite salesmen seeking a more complete line to sell, to write us in strict confidence, with a view to arranging a personal interview. Address

L. J. MUELLER FURNACE CO.
MILWAUKEE, WISCONSIN

M458

SALESMAN WANTED

Illinois Manufacturer of a complete line of Warm Air Furnaces wishes to communicate with Commission Salesmen who are interested in selling furnaces on commission to dealers in Minnesota, North and South Dakota, Kentucky, Oklahoma, Texas and Michigan. Liberal commissions are offered. Commissions paid on all business including mail orders coming from dealers established by the salesman. Prospects furnished, from advertising campaigns. Efficient direct mail follow-up strongly supports the salesman. Address B460, American Artisan, 620 South Michigan Avenue, Chicago.

SALESMEN

Prominent furnace manufacturer has sales territories open in Illinois, Iowa, Wisconsin, Kentucky and Tennessee. If you are a traveling salesman who can produce, here is a fine opportunity for you. Write us, care American Artisan, Box T459, for further details. Your letter will be held in strict confidence.

SPECIAL NOTICES**SITUATION WANTED**

By experienced furnace salesman with good record. Have sold both Cast and Steel Furnaces over a large area. Am accustomed to making estimates and layouts and to using Standard Code. I am a practical, as well as a theoretical man, and looking for 1928 connection with a reliable firm requiring a first-class salesman. Address Z459, care of AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Ill.

**WANTED
COMMISSION
SALESMEN**

Owing to a large increase in capacity The Excelsior Steel Furnace Company, 118 S. Clinton St., Chicago, wishes to engage several additional commission salesmen. The Excelsior line is one of the largest and most complete made, embracing Furnaces, Furnace Pipe, Stove Pipe and Furnace accessories, all of the highest quality. Branches and distributors located in important cities enable the company to supply its products promptly to dealers in all parts of the country. The line is easy to sell as dealers prefer Excelsior goods which, though superior in every respect, are sold at competitive prices. Apply immediately as territory is to be assigned in the near future.

X459

SPLENDID OPPORTUNITY

for a salesman experienced in selling Asbestos Furnace Cement, to act as general representative for Linseal Asbestos Furnace Cement. Only experienced man with good sales record and reference apply. Address, The Buckeye Products Company, 7020 Carthage Ave., Cincinnati, O. H458.

WANTED

Experienced furnace salesmen in sundry territories by an old established, well known manufacturer of high class trade mark line of furnaces. Address, American Artisan, 620 S. Michigan Ave., Chicago. J458.

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SUPPLY your next job with "K-S-V" and you never will have a complaint. Complete stock on hand for prompt shipment.

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SPECIAL NOTICES**Salesmen Wanted**

A well established Mid-Western manufacturer of warm air furnaces wishes to communicate with commission salesmen who are interested in handling furnaces as a side line in Kansas, Nebraska, Oklahoma and western Iowa. An attractive proposition with liberal commissions will be offered the right men. Commissions paid on all business, including mail orders, coming from salesmen's territories. Prospects furnished thru circularizing and advertising campaign. Address Z458, American Artisan, 620 So. Michigan Ave., Chicago, Ill.

WANTED AT ONCE

Eight experienced furnace salesmen by manufacturer of a complete line of furnaces and furnace accessories. Our salesmen know of this advertisement. Address B459, American Artisan, 620 So. Michigan Avenue, Chicago, Ill.

EXPERIENCED MANAGER and SALESMAN with practical and technical knowledge of all branches of the warm air industry desires to make a change. Can handle successfully, selling or directing sales, designing, furnace fitting, factory, and fan work. Have the best of reference. Will go anywhere but must have a reasonable time to assist a successor to the position I have held for 10 years. Address S459, American Artisan, 620 South Michigan Avenue, Chicago.

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SPECIAL NOTICES**FURNACE
SALESMAN**

wanted by established manufacturer of quality furnaces. The product and also the proposition will bear the closest scrutiny. Chicago territory still open. Man with successful selling record, either wholesale or retail, is wanted.

If you are looking for a real opportunity, a place where hard work and honesty will repay you in direct proportion to your efforts, and a permanent situation, write for complete details to C459, American Artisan, 620 South Michigan Avenue, Chicago.

**EXPERIENCED FURNACE
SALESMAN**

with good record wants to make a change. Iowa or Minnesota territory preferred. Address W459, American Artisan, 620 South Michigan Avenue, Chicago.

**WANTED
FURNACE SALESMAN
FOR ILLINOIS
TERRITORY**

We want a high class salesman to sell American and Lincoln Furnaces to Dealers in Illinois and Indiana, experienced man wanted.
**AMERICAN FOUNDRY &
FURNACE CO.
BLOOMINGTON, ILL.**

A460

SIDE LINE SALESMEN

CALLING upon furnace and stove trade to sell INSALUTE Furnace Sealing Cement, and China "SANIFEET" stove-rests. They match "Kitchen Color Schemes."

TRIAL Package of five colors (25 sets of 4) cost the dealer \$14.00. Retail at 50c per set. Big profits, everybody buys.



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This New Mighty Midget cuts sheet iron up to 18 U. S. Gauge Iron. On Aluminum, Brass, etc., 16 U. S. Gauge (0.0625") (48 oz. Copper) Cardboard, Linoleum, Fibre and softer materials in proportion. Minimum Radius 1 inch. Notice the *Pivoted Duplex Handle*—it provides convenient grip for use of machine in any position. Trigger switch conveniently located on handle. Blades—exchangeable, interchangeable and easily ground.

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IT'S the famous *Unishear Principle* in the Mighty Midget which assures cutting with hair-line accuracy along any line whether straight, curved or irregular and handles notches and angles with equal ease. No burr or distortion—no time lost in filing or trimming down the work.

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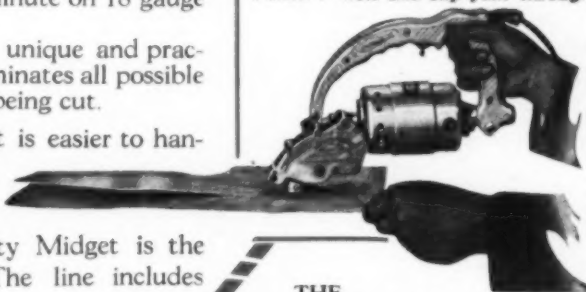


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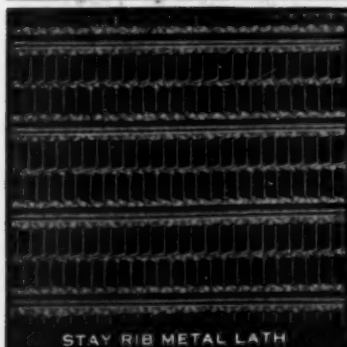
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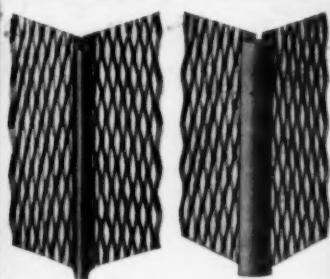
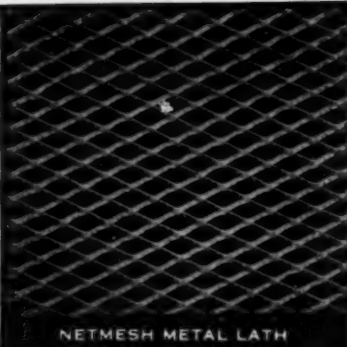


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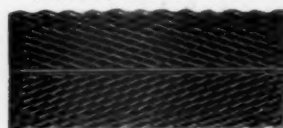
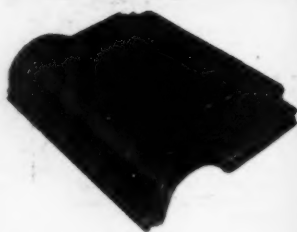
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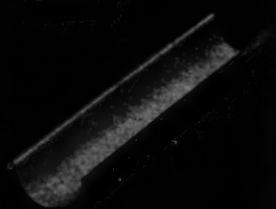
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